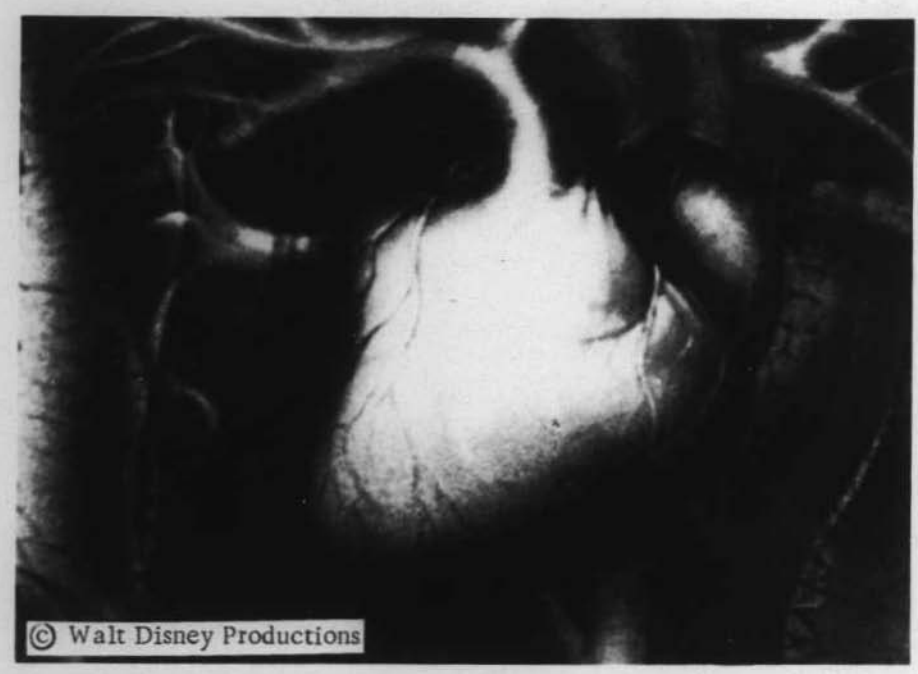
FLORIDA HEALTH NOTES



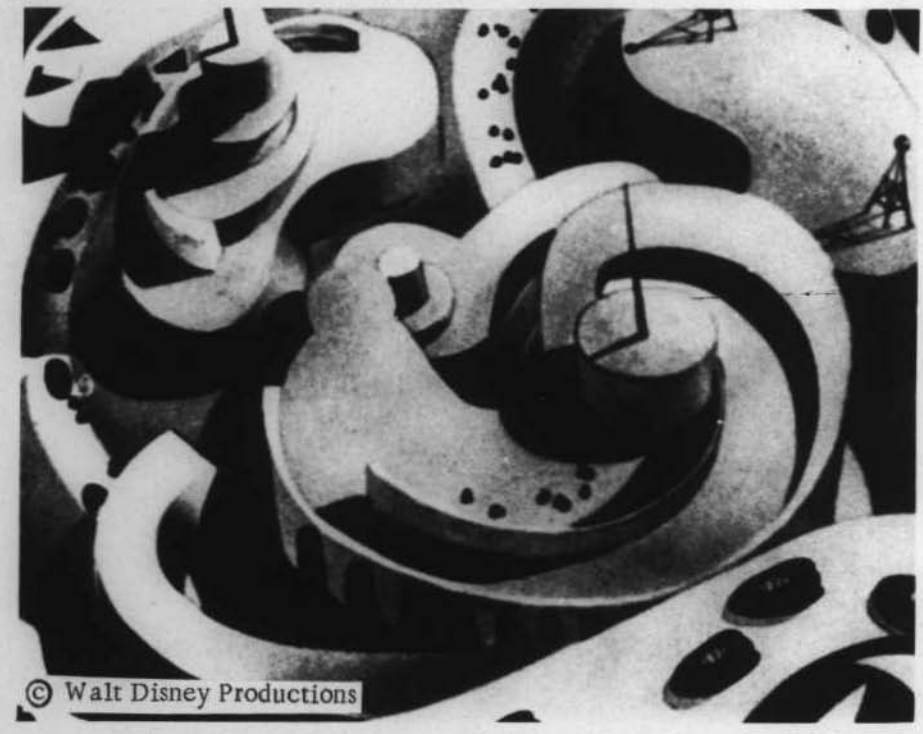
VOLUME 60—NO. 1

JANUARY 1968

Be Safe With . . . IMMUNIZATIONS



The organs of the body (above) are similar to a city with the heart as the central supply office and the blood vessels are highways (below) through which the workers move undisturbed carrying food and energy to the various parts of the city.



Be Safe With . . .
IMMUNIZATIONS

"Mommy, do I have to have some more shots? You don't take them." "Mommy doesn't need them. I'm grown up."

This is common conversation between children and parents but how wrong this mother is, who feels that she doesn't need immunization against disease. People today do not seem to realize the importance of immunizations and how they can prevent an illness which can end with death. No parent wants to see his children stricken by disease. Yet so many parents will avoid taking the time and expense to have themselves properly vaccinated against diseases—many of which have no cure. This neglect on the part of parents could cripple, disfigure, or kill their child or themselves.

Sometimes it takes an epidemic to bring people to the realization of the importance of immunizations. Once the disease has struck, it does little good to be vaccinated.

Dr. Jenner and the Past

Immunization is not new. A long time ago scientists discovered that persons who survived epidemics of smallpox and plague were immune to further attacks of the same disease. Dr. Edward Jenner noticed that milkmaids developed a mild disease, cowpox, from handling cows' udders. He began to study the matter and came up with the conclusion in 1796 that those persons who developed cowpox were thereafter immune to smallpox. To test his conclusion he inoculated an eight-year-old boy with material from a cowpox lesion; the child became mildly ill and then recovered. After that Jenner inoculated the boy with smallpox fluid. Nothing happened! He repeated this two more times with the same results. Dr. Jenner had invented vaccination. It is notable that

(Cover photo) A public health physician gives measles immunization with a jet injector gun during a mass immunization campaign. (Miami Herald Photo)

cowpox is caused by the **vaccinia** virus. The word **vaccination** comes from it.

Louis Pasteur stands out as the man who, in 1880, first discovered that rabies could be prevented by inoculating a bitten person with gradually increased doses of a modified rabies virus. The vaccine proved to be life-saving. Through the work of other great scientists, advancements have been made in achieving immunity in a number of diseases.

Immunity and Immunization

Immunity is a type of resistance to infection. It is associated with possession of antibodies in the blood stream. These have specific actions on the bacteria concerned with particular infectious diseases or on their toxins. By reacting with the infectious agents, the antibodies prevent disease.

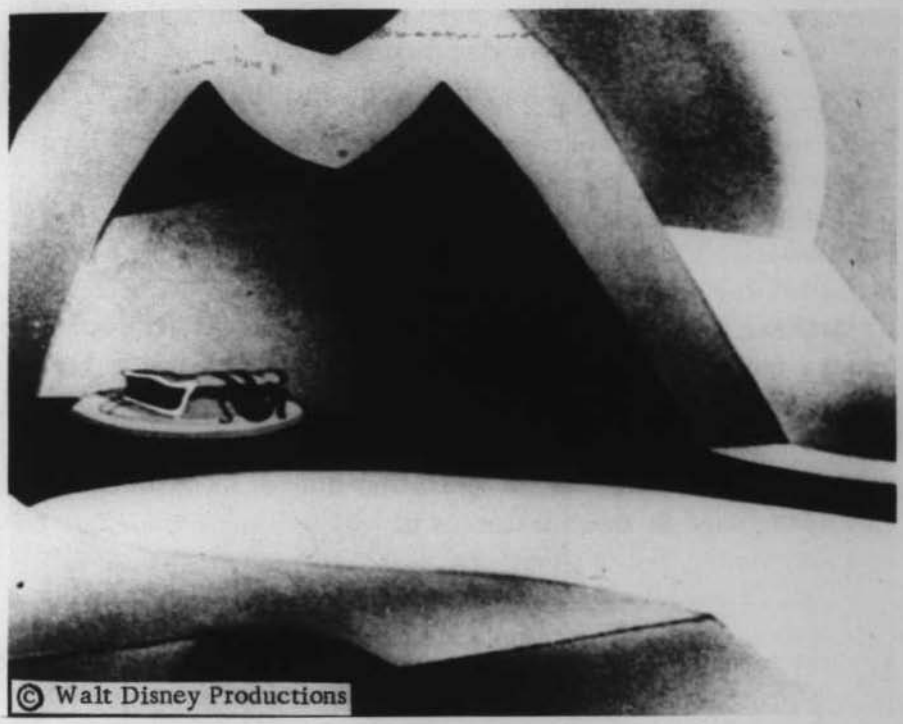
Immunity must be acquired. Mothers who have antibodies against specific diseases pass them along to their unborn children; but babies lose such immunity within one to four months after birth. To be fully protected, the babies themselves must be immunized. Immunization is the act of making a person immune. Vaccines are for this purpose.

There is a different vaccine for each disease but not all diseases have vaccines. There are 28 diseases affecting man which can be combated by vaccines. The more important ones include polio,

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Disease viruses can enter the body through gateways, such as on food going into the mouth.

diphtheria, pertussis (whooping cough), tetanus, measles and smallpox. Injection or introduction of a vaccine into the body stimulates the body to produce antibodies. Immunity so acquired is referred to as "active" immunity. With some diseases the immunity acquired by immunization is lifelong. In most diseases, however, the body needs periodic "boosters" for maintaining immunity at protective levels.

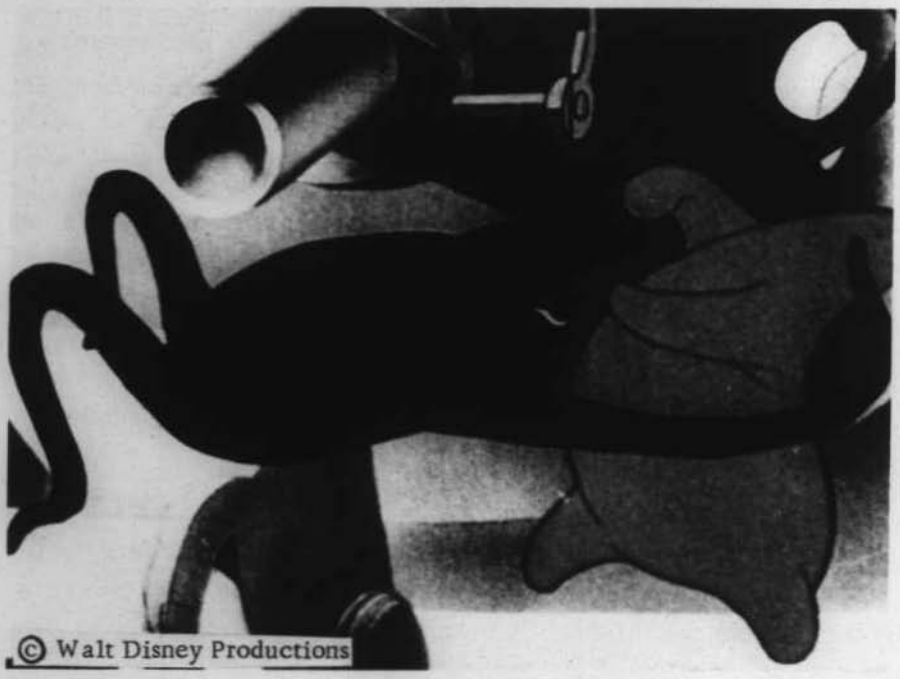
The child who survives measles will have everlasting immunity to another case of the disease. Diphtheria also confers lasting immunity to the child who recovers. With polio, the person affected develops a lifelong immunity to the particular polio virus causing his disease. But there are three types of polio virus, and

having one type of polio does not produce immunity to the other two types. Tetanus (lockjaw) is different. A case of the disease does not give the person immunity to having the disease a second time.

Gamma Globulin

Another type of immunity is that associated with injections of gamma globulin. The antibodies produced in one person are effective in protecting another person when they are injected into him. Antibodies are concentrated in gamma globulin which is produced by treating and concentrating human blood in a certain way. It is used in those instances in which a non-immunized per-

The viruses multiply and, in an unprotected body, destroy the workers.



© Walt Disney Productions

Witch Doctors and Smallpox

Long before Edward Jenner performed his famous cowpox experiment in England, African witch doctors were inoculating for smallpox —using live virus. They made a superficial cut on the wrist of the patient and rubbed into it a bit of the scab of a smallpox pustule from a person having the disease. Then they bandaged the wrist with leaves. A full-fledged, but mild, attack of the disease followed with a high fever for a few days. The patients generally recovered and were subsequently immune against smallpox.

son is exposed to infection. After such an exposure, a person does not have time to develop his own antibodies through protective immunization. Thus, the physician gives the individual antibodies made by another person.

For example, suppose that an adult man, Mr. A, has never had mumps and his son, Tommy, becomes sick with the disease. (Remember that a case of mumps will cause lifelong immunity against reinfection.) An injection of mumps gamma globulin will protect Mr. A against developing the disease. Injections of gamma globulin given after a person is exposed to infectious hepatitis serve the same purpose. The old practice of giving "horse serum" to injured persons was an identical kind of immunity aimed at preventing lockjaw. But immunity caused by gamma globulin and horse serum is short-lived, lasting only two to six months. "Active immunization" is much to be preferred.

Diseases and Vaccines

Smallpox was at one time among the most dreaded diseases in the world. The wide use of smallpox vaccine has kept the number of cases down, but smallpox is still a problem in Asia, Africa and South America. Today, one rarely hears of a person with smallpox in the United States. The last major outbreak occurred in 1924-25 which caused many deaths in the Midwest.

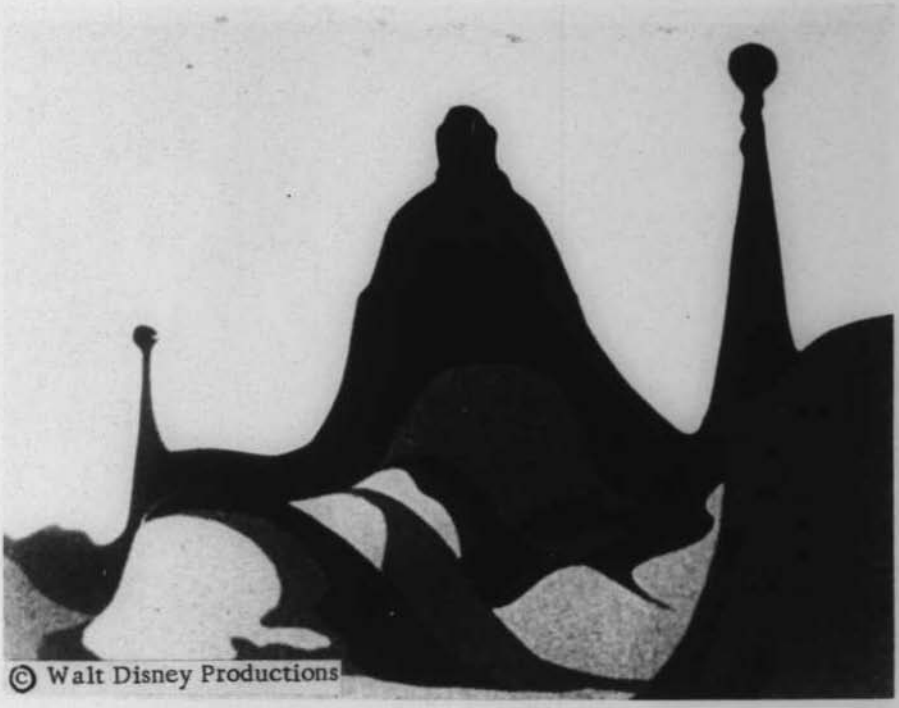
Smallpox is caused by a virus and begins with a fever, chills, malaise and a generalized rash which develops into disfiguring pustules (blisters containing pus) on the face, arms and legs. Vaccination for smallpox should occur when a child is one year old and again at the time he is to enter school. Public health officials warn that the introduction of a single undetected case of smallpox into a neighborhood could touch off an epidemic. For safety reasons, a smallpox vaccination every five years is recommended.

The **polio** vaccine is generally recommended for everyone up to 18 years of age. Poliomyelitis is commonly known as a crippling disease and most victims lose some muscular control. In its most vicious form it carries a high death rate and there is no cure. Polio was first prevented by three injections of a killed virus vaccine developed by Dr. Jonas Salk. These doses were to be followed by a booster six months later and additional boosters at intervals recommended by the family physician. In 1962, a live virus polio vaccine, discovered by Dr. Albert Sabin, was given approval. This vaccine is taken orally, usually as drops on sugar lumps or in a sugar syrup.

Polio protection should begin at an early age. Since polio strikes mostly children of preschool age, they should have their first immunizations at two months of age.

Diphtheria is usually an infection centered in the nose, throat, or tonsils; it spreads by direct contact with a patient or carrier, and is more common in autumn or winter. It may be passed by contact with articles soiled by discharges from the patient and is most common among schoolchildren. Death results when the child's breathing passage becomes filled by a thick membrane.

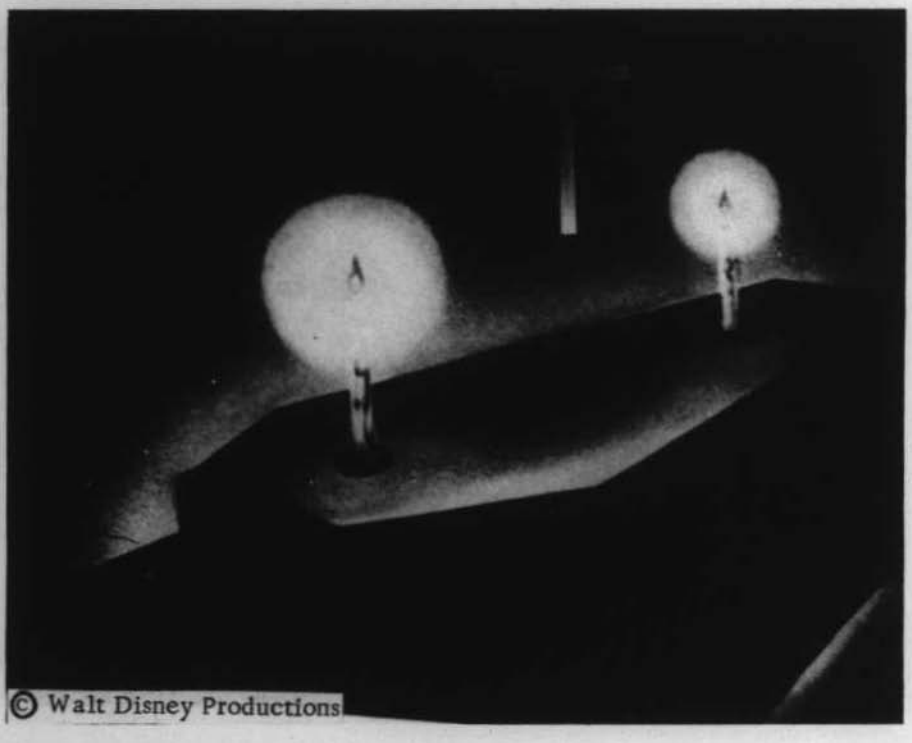
Active immunization is the effective method of preventing diphtheria. The vaccine should be given during the first year of life and a booster should follow at 16 months and again at six years



The city is overwhelmed and blacked out.

of age. Too often the stress is placed on the immunization of preschool children and the child already in school is forgotten. Over half the cases of diphtheria strike school-age children. Parents should be encouraged to have their children immunized by their physician as part of their regular medical care.

Over 40 years have passed since a diphtheria toxoid came into use and yet the disease is still a constant threat—although it is preventable. This is especially true when the level of immunization is low. There were only six cases and no deaths from the disease in Florida in 1966, as compared with 102 cases and 19 deaths in 1956, and 361 cases and 30 deaths in 1946.



The body dies because it does not have the power to resist disease viruses.

A combination of a diphtheria and tetanus toxoid for adults has been available since 1958. It produces effective antibody levels and carries no risk or systemic reactions. The combination eliminates the necessity of separate doses and if the recommended two injections are taken, parents will enjoy the same protection from diptheria as their children will.

Pertussis, or whooping cough, is one of the most serious diseases among children. It involves the air passages of the trachea and bronchial tubes leading to the lungs. The disease begins as an ordinary cough which becomes severe and may lead to pneumonia. It is one of the leading causes of death in small children. This is sad, because whooping cough is preventable through immunization.

Pertussis immunization is stressed for infants early in life because whooping cough is one disease for which a mother does not pass protective antibodies on to her baby. The vaccine is given most commonly in combination with diphtheria and tetanus toxoids (the "DPT" or "3-in-1 shot") and is administered in three injections—one month apart.

Tetanus, or lockjaw, is a very serious disease with a high death rate. A person usually contracts it through puncture wounds. Such ordinary things as a bee sting, needle, rusty nail or rose thorn may lead to tetanus; children with open sores may become infected while at play; or individuals may be infected as the result of an automobile accident. The tetanus bacillus produces a poison that causes convulsions or spasms of the voluntary muscles, often those of the jaw, hence, the name "lockjaw."

Since there is no age limit at which one might catch this disease, everyone should be protected. Infants and preschool children should be given two injections four to six weeks apart and a booster dose one year later. Since the immunization is longlasting, adults need boosters every six to 10 years but a booster should be given at the time of an injury, unless the person has received a booster within the year. Still people fail to have the proper immunizations. Several hundred persons in the United States catch the disease each year. Out of 16 persons in Florida who were reported to have tetanus in 1966, 14 of them died.

Measles also is totally preventable through immunization. This very serious disease of children may result in loss of hearing or vision and/or the more serious complications of mental retardation. Many County Health Departments have now instituted mass measles campaign aimed at eradicating the disease.

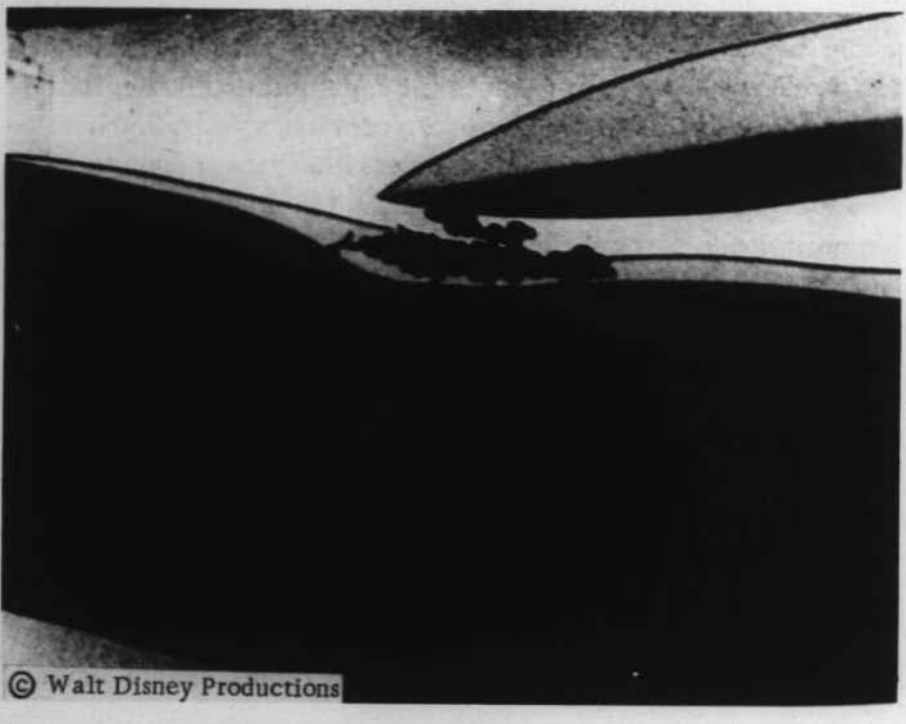
Other immunizations which may be obtained from your physician are influenza, typhoid, yellow fever, rabies, typhus, mumps

and tularemia. People who have received vaccination and booster shots at the proper times are essentially immune to the diseases against which the vaccines are directed, and the chance of contracting any such disease is very slight.

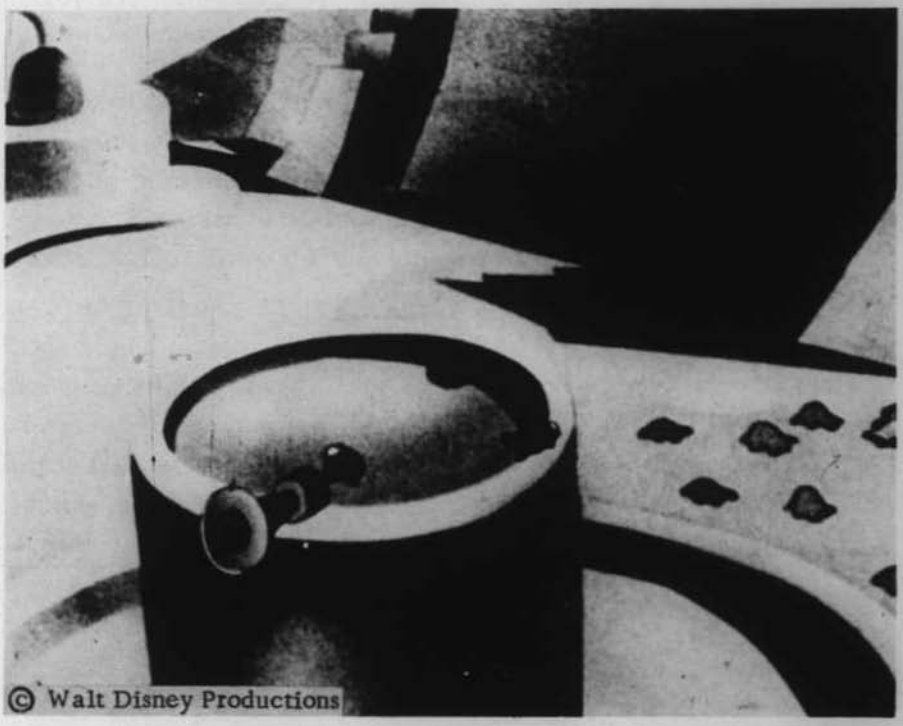
The Staff of the County Health Department

One person in the County Health Department who works closely with the immunization program is the public health nurse. The actual administering of the vaccine is the least of her job. Her main objective is to see that the family realizes the importance of immunizations, not only for the children but for the parents. By working in schools and with the health needs of the city or county,

When controlled viruses are introduced into the body through vaccination . . .



© Walt Disney Productions



. . . the workers sound the alarm because they do not know the invaders are harmless.

she, and other staff members, find people who are not receiving care and direct them to the private physicians or to public health clinics.

The State Health Officer points out that mass immunization programs, once carried on in schools, are too late in life to help many children. Today, the aim of the County Health Departments and State Board of Health is to immunize children from the first few months of life.

The environment plays an important role in the spread of communicable diseases. Environmental health then is an important factor in this control. Reservoirs for the breeding of germs are eliminated through the surveillance of water supplies, waste dis-



The workers attack the weak vaccine viruses . . .

posal, milk supplies, food handling, food processing, housing regulations and control of insect and animal diseases. Unsanitary environmental factors are responsible for or may contribute to the spread of many communicable diseases.

An Immunization Program

In an attempt to eliminate certain communicable diseases in Florida, a "Birth Certificate Follow-up Immunization Program" was begun in 1963 by the State Board of Health. This federally-supported program is directed toward increasing the early protection of newborn infants against measles, polio, diphtheria, whooping cough, tetanus and smallpox. Through birth certificates

filed with the State Board of Health, the parents of the infants are contacted when the babies are three months old.

The first contact is to make certain the infant is started on his immunizations. The second contact at 18 months of age is to determine the immunization status and to insure the needed immunizations or "boosters" are obtained. At each contact with the family, immunizations for all members are stressed.

First Contact: At the beginning of each month, a set of four cards is made up by the State Board of Health for each infant who has reached the age of three months. These include three cards addressed to the infant's parents and a registry card which remains in the files of the County Health Department. A pamphlet, "Don't Gamble with Your Baby's Health," is sent with the first three-

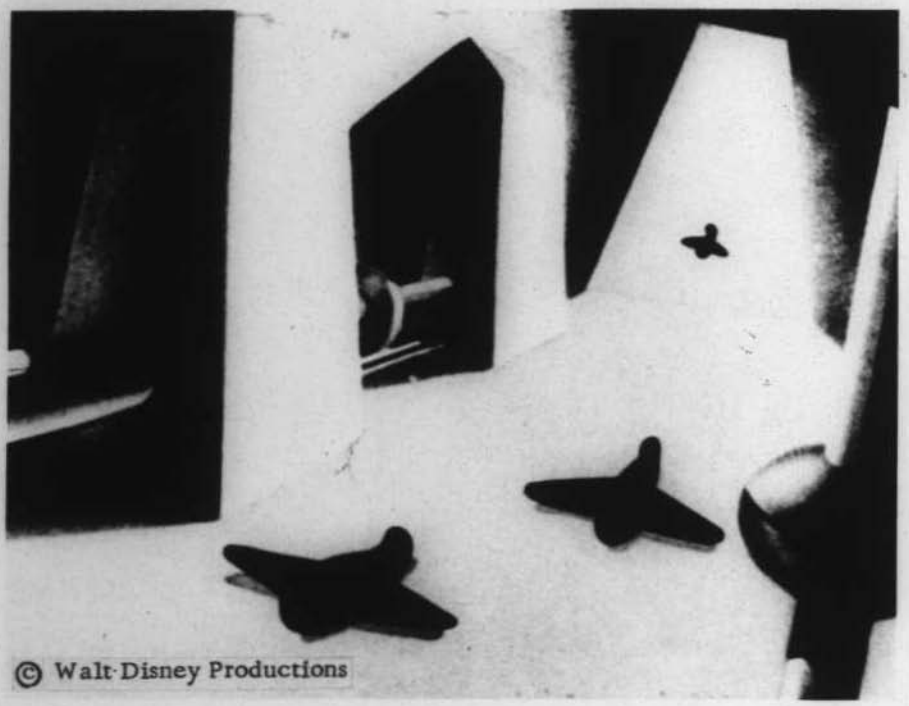
. . . and mobilize an army of antibodies as defense against the invaders.



month card. The first card is from the county health officer who congratulates the family on the birth of the new baby and tells the parents that the child should be started on his immunizations. Also, on the card is a note to the family physician asking him to indicate that he will see that immunizations for the child are started.

If the parents do not respond, another card is sent along with a follow-up letter from the county health officer stressing the importance of early immunizations. If the parents fail to respond to this card, a telephone call is made to the home. If there is no telephone or if this does not get a response from the family, a home visit is made by the public health nurse. All this is aimed at moti-

Other infectious viruses invade the protected body through the air or in many other ways.



Films and Pamphlets

A number of films, including a new one, SPOT PREVENTION, is available from the Audio-Visual Library of the State Board of Health for use by public health nurses, health educators, schoolteachers, health workers and other organized groups. The new film is a 14-minute color cartoon promoting measles immunization.

The immunization project office also has a supply of posters and pamphlets for the promotion of immunization campaigns.

vating the parents to obtain adequate protection against disease for their newborn infants.

Second contact: The same general procedure is used for the 18-month follow-up. A card reminds the parents that immunity must be kept up-to-date to protect the health of the whole family. A list of the shots which the infant has received is requested from the parents, along with the signature of the physician. Again those families who fail to respond are the ones which cause the most concern. They require home visits and need motivation to realize the importance of immunizations and to act accordingly.

An intensive educational campaign is an important part of this immunization program. Community health workers from the County Health Departments and other agencies go from door to door in their community stressing the importance of immunity. Now a campaign stressing the eradication of measles is in progress. Many counties have already or are now preparing for mass single day immunization programs. Consultants from the State Board of Health go into the counties and help local health workers to set up a program which will tell the people about the new vaccine through various means of communication. The people are informed by posters, radio, television and newspapers where and when they may receive the vaccine. Physicians explain the importance of the new vaccine in interviews on television and radio programs. Children

receive information at school; newspapers print schedules of the clinics.

When the day for the mass immunization arrives, the clinics are held in schools and other places which are easy for the people to reach. To speed up the process of giving the immunizations, the new jet injector guns are employed. They use no needles.

More than 100,000 Florida children were immunized against measles in clinics and in mass campaigns during 1967.

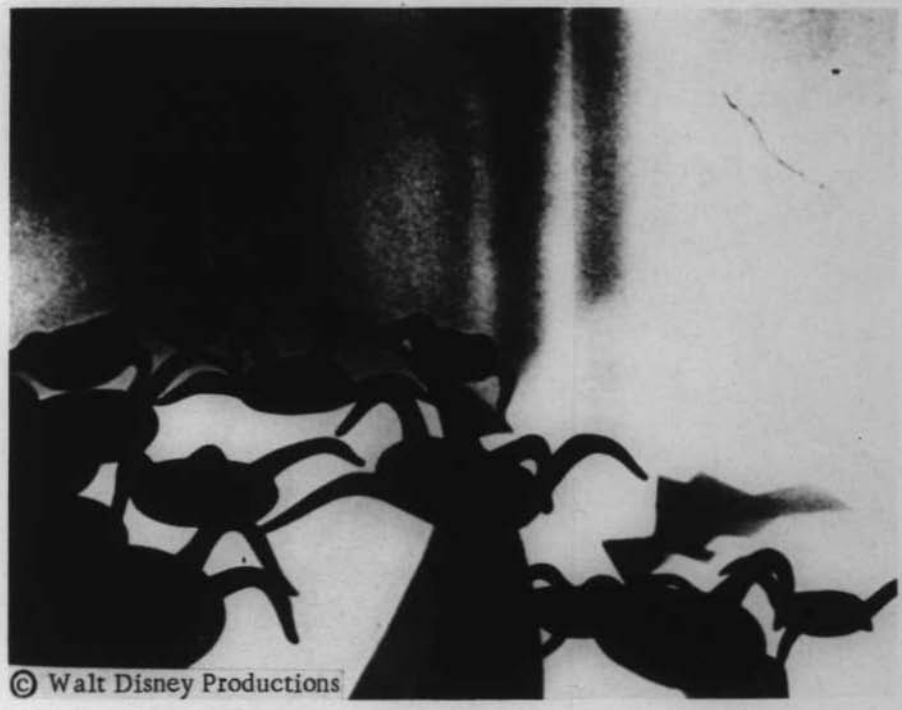
Protection Against Rabies

An area of immunization which receives less attention from the public is that of vaccination of animals. Since pets, cattle, horses and wild animals can transmit diseases to humans, the proper precautions should be taken to protect these animals by vaccination.

One of the most deadly animal diseases is rabies. Animals can be inoculated against rabies, and people who own dogs, cats or other household pets should have them immunized. Rabies vaccine is frequently administered to persons who work with animals, such as veterinarians, animal wardens and sanitarians, because they may come in contact more often with rabies. Once a person

Immunize Pets Against Rabies

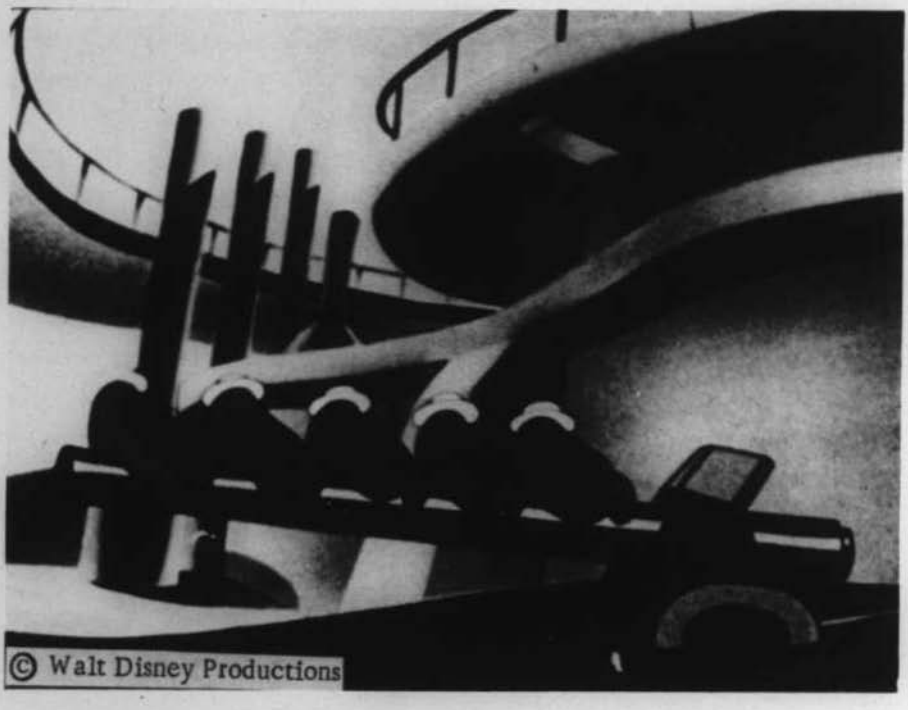
The State Board of Health and County Health Departments urge that all pets be annually inoculated against rabies. Many municipalities and counties have local laws which require that dogs (and in some counties, cats) be so immunized. This simple procedure will not only protect valuable pets from contracting rabies if bitten by an infected dog or wild animal, but human members of the family as well. If you are in doubt about whether your pet needs a rabies vaccination, check with your veterinarian.



They then multiply and attack.

has been bitten by a rabid animal there is a serum and vaccine which may protect him from coming down with the disease. The number of injections of vaccine is usually 14, depending upon the facts surrounding the bite and the location on the body. The best thing to remember is "don't get bitten."

Any animal bite should be taken seriously. In case of a bite, a complicated but absolutely necessary series of events must take place. The bite victim must be rushed immediately to a physician who will know what to do. The County Health Department animal warden, or the sheriff or police must be notified. They will make the necessary arrangements to capture and impound the animal where it can be observed for 10 days. If the individual was bitten



The workers are prepared by vaccination to meet the attack . . .

on or around the head, the physician may start the necessary treatment without waiting. Should the animal develop no symptoms of rabies within the 10 days, it can be released and the bite victim need not start the long and painful series of injections; or if they are already started, they may be discontinued. If the animal proves to be rabid, the attending physician is notified. He will proceed with the treatment which is the only thing that can save the patient's life.

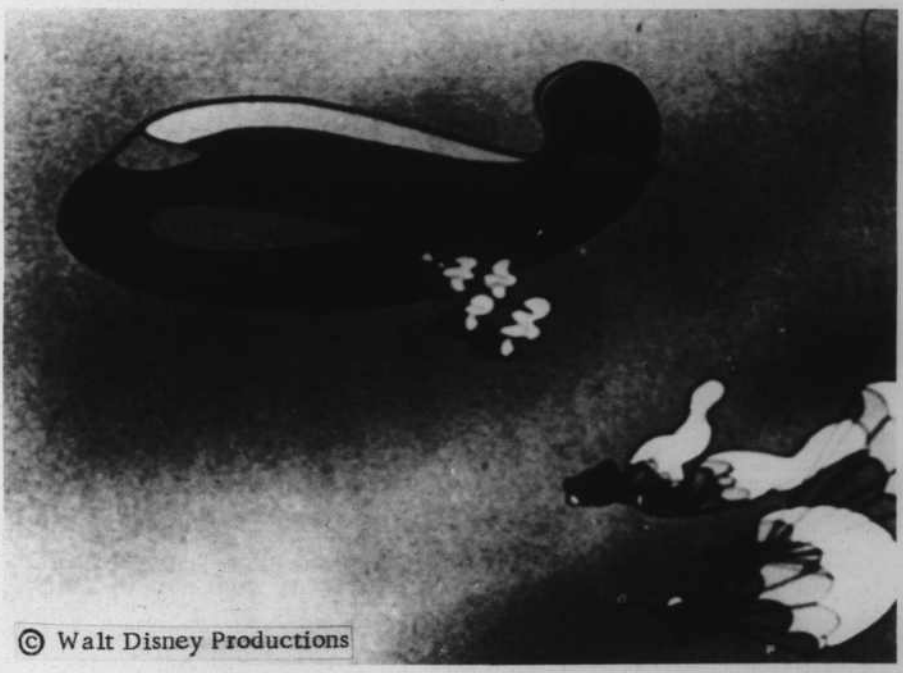
Allowing that professional help cannot be contacted and if the biting animal acts in a peculiar manner (a wild animal seems tame or if any animal is extremely ferocious), it may become necessary to kill the animal in such a way so as not to damage the brain, remove its head and take this at once to the nearest regional laboratory of the State Board of Health.

Other Animal Diseases

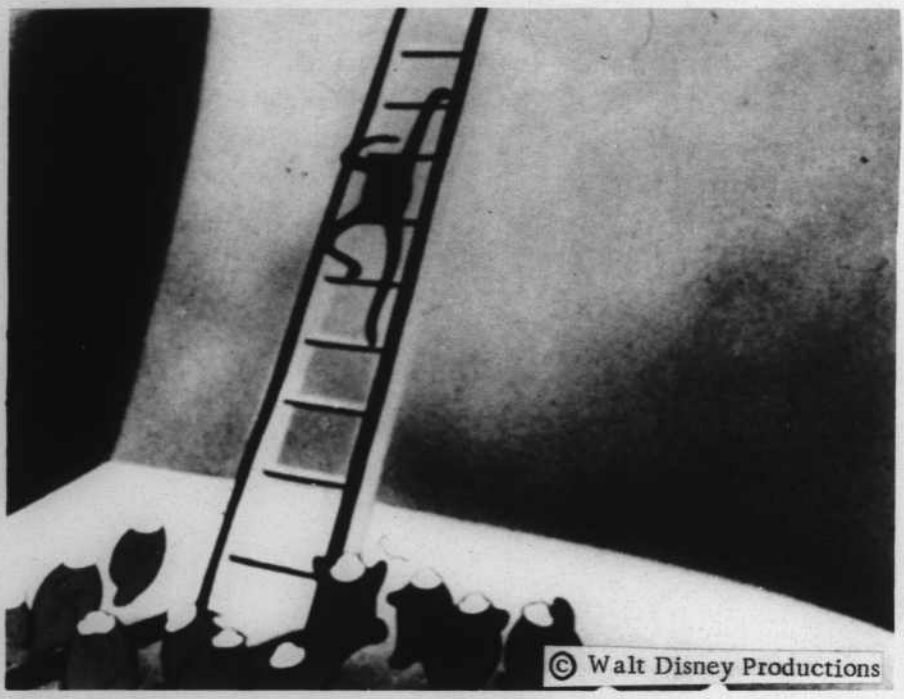
Have you ever seen a hunchback person? One of the causes of his condition may have been **bovine tuberculosis.** But this is extremely rare today. The disease is transmitted from cattle to humans through consumption of **raw** milk and the result is a weakening of the bones which cause the hunchback condition. This one-time common disease has been almost eliminated, thanks to the emphasis that was placed on tuberculosis control and eradication. Today, cattle are routinely tested by the Florida and U.S. Departments of Agriculture for bovine tuberculosis. The County Health Department sanitarians cooperate with these agencies through their dairy inspection programs.

A disease sometimes found among people who work with cattle and swine or drink **raw** milk is brucellosis (undulant fever). This

. . . and overcome the invading viruses.



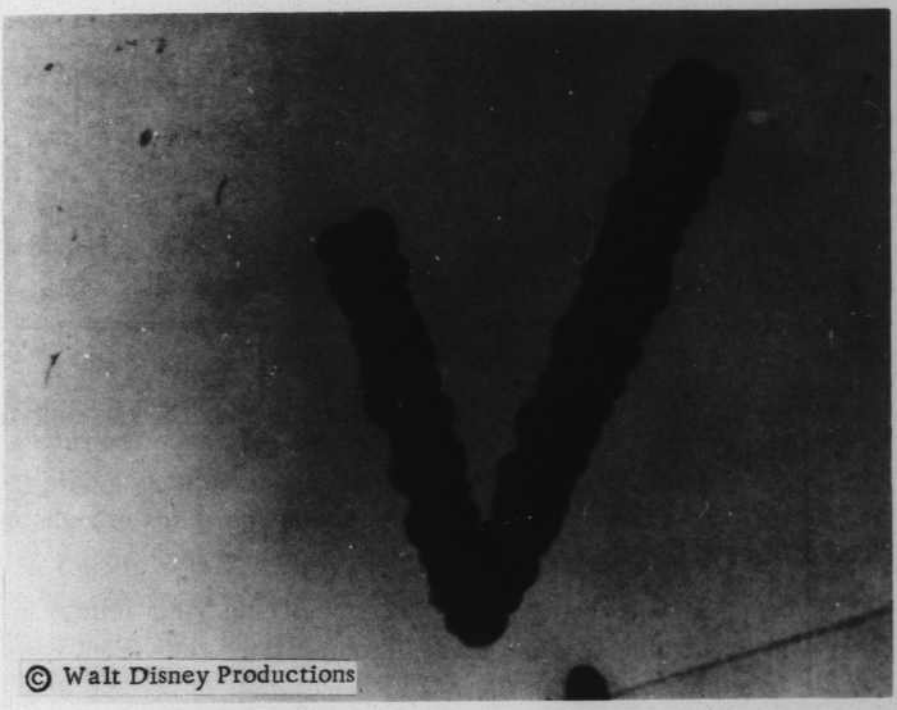
© Walt Disney Productions



The infectious virus is defeated . . .

infection is characterized by fever, headache, weakness, profuse sweating, chills and general aching which may last for several days, and less frequently for longer periods of time. But the infection is rarely fatal. Pasteurization of dairy products is one of the most effective methods of protecting a community. Fortunately, only pasteurized milk may be sold in Florida. A vaccine, called Strain 19, is used in controlling the disease in cattle. If the animal becomes infected, current control procedures require that it be slaughtered. The vaccination of calves from three to eight months of age is recommended by the U.S. Livestock Sanitary Association and the Departments of Agriculture.

There are many other diseases which are common in animals. Some of these are transmissible to man and others are not. Parrots, parakeets, rabbits, squirrels, raccoons, bats, pet turtles and



. . . and the body is victorious over the disease through vaccination.

many other forms of animal life frequently carry such dangerous diseases as psittacosis, plague, ringworm, rabies and salmonellosis.

People who own pets and other animals of any kind should talk with their veterinarian and see about the pets' protection.

Veterinary medicine is protecting human health

by the eradication or control of animal diseases and thus removing the source of infection to man;

by developing medicines and treatment for animals that can be adapted for use in human cases; and

by enforcing food hygiene programs to protect the consumer against food-borne diseases.

The photographs in this issue of FLORIDA HEALTH NOTES, except the cover, are taken from the colored, Walt Disney Production film, "D e f e n s e Against Invasion." We appreciate the permission granted by Walt Disney Productions to use these scenes without cost, for the education of the people of Florida. This 10-minute motion picture may be borrowed from the Audio-Visual Library of the Florida State Board of Health, Box 210, Jacksonville, Florida 32201.

Immunization is one of the most potent weapons for the control of animal diseases.

Travel Abroad

If you plan to travel abroad, you should plan your immunizations well in advance of your trip. Immunizations take from eight days to three months after the initial inoculation to become effective. Your personal physician will give you the needed vaccinations. If you are traveling with a pet, you had better check with your veterinarian and determine the requirements for immunization and health certificate.

The United States is free of such diseases as smallpox, yellow fever, cholera and typhus but these are common in many foreign countries, particularly in the tropical regions of the world. It is important to follow the requirements for immunizations. They protect the traveler while visiting other countries and, in turn, protect the American people upon the traveler's return.

You will receive a form "International Certificate of Vaccination" when you apply for your passport. This is used by your physician to record your immunizations and it must be signed by him, giving the date of the vaccination and the kind of vaccine used. The certificate must be validated by the County Health Depart-

ment of the county where your physician practices. For more information on requirements for travel in various areas of the world, you may obtain a copy of the booklet, "Immunization Information for International Travel" from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for a small price.

The Future

Science is making great advances every day. New vaccines are being discovered. Who knows, the common cold one day may be conquered; a vaccine against German measles is being developed; syphilis and tuberculosis are under attack. Programs will continue to educate the people on the importance of vaccines already in use. But public apathy can become a dangerous thing. If people don't realize the importance of immunizations and fail to immunize themselves and their children, they are playing with death. No one wants to contact any diseases. One never knows when some careless person will bring an epidemic into a community.

So—to be safe from disease—have your immunizations.

BE—WISE—IMMUNIZE!

Where to receive immunizations?

SEE YOUR FAMILY PHYSICIAN

or

Contact your County Health Department

or public health nurse

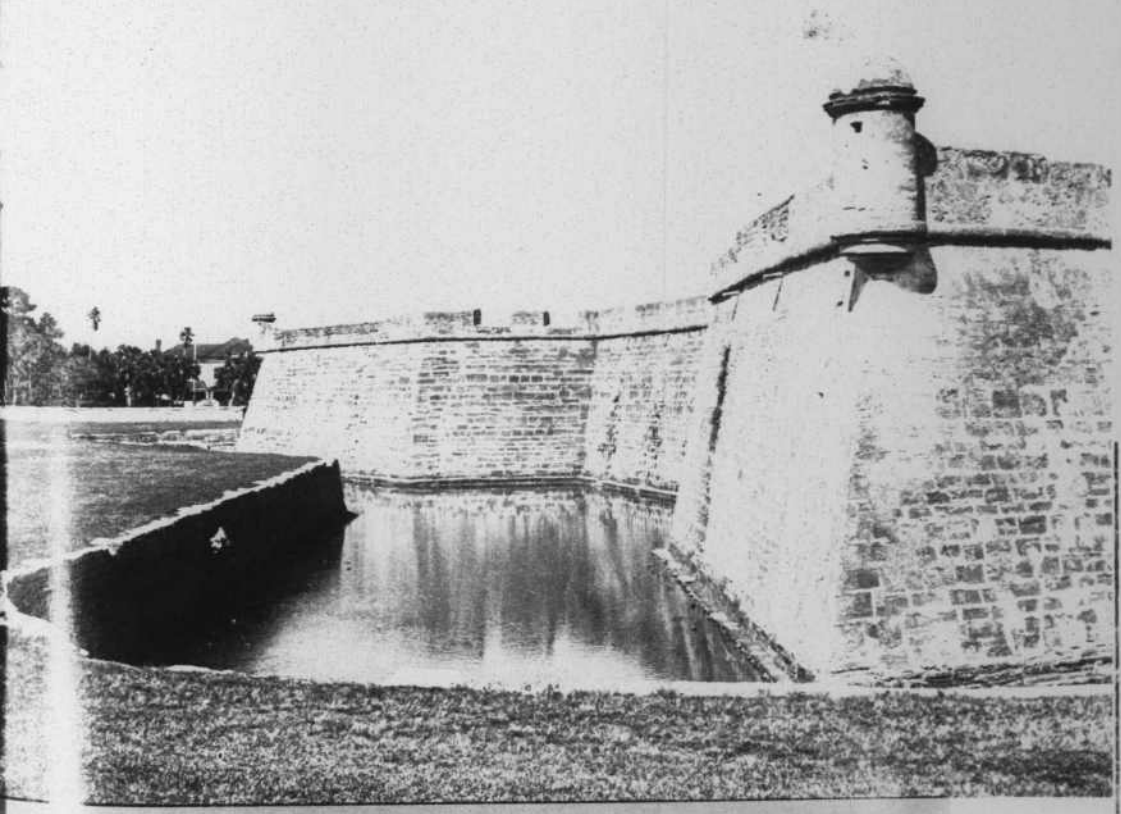
When to Receive Your Immunizations

AGE	IMMUNIZATIONS					
	DPT	DT (adult)	Tetanus**	Smallpox	Polio*	Measles
2 months	#1				#1	
3 months	#2					
4 months	#3				#2	
6 months			Give			
12 months			a	x		x
16 months	booster		booster		#3	
6 years	booster		at	x	booster	
10 years		x	time	x		
14 years		x	of			
15 years			traumatic	x		
18 years		x	injury			
20 years				x		
22 years		x				
25 years				x		
		booster every 4 years		booster every 5 years		

*Trivalent vaccine. Do not administer simultaneously with smallpox.

**Preventive boosters at 10-year intervals; not more than one booster in any 12-month period following trauma.

FLORIDA HEALTH NOTES



VOL[illegible]E 60—NO. 2

FEB[illegible]ARY 1968

First Hospital – U. S. A.

FLORIDA STATE LIBRARY

(Cover photo) The Castillo de San Marcos in St. Augustine is the only structure remaining from the First Spanish Period of Florida history. It was begun in 1672, 75 years after the first hospital was founded in the Ancient City.



When St. Augustine was founded by Pedro Menéndez de Aviles, a Mass was celebrated by the expedition's chaplain. This statue at the Mission of Nombre de Dios commemorates the event.

First Hospital-U. S. A.

The struggling tiny presidio (garrison) of St. Augustine on the little inlet of the northeast Florida coast which greeted Gonzalo Méndez de Canzo when he arrived on June 2, 1597, to take over the duties of governor, consisted of a rough fort, a number of wooden houses with thatched roofs, a few Indian dwellings and a couple hundred inhabitants. Arriving with Governor Méndez were a cleric, who was to serve as chaplain in the presidio; 24 soldiers; an officer; and, 10 to 12 women of "good reputation who were to marry soldiers in Florida."

Governor Méndez found a small frame hospital being constructed adjoining a wooden church. Because he felt it of great benefit to the garrison, he gave it his best support toward completion. Governor Méndez said if there had been no hospital during the summer of 1597, many soldiers, Indians, and Negro slaves would have died from a fever which swept the community.

The cost of founding and building the hospital exceeded the contributions collected for the purpose by more than 500 ducats and so Governor Méndez petitioned the Spanish King, Phillip II, for financial support and the assignment of a female slave to serve in the building. The Crown eventually authorized the release of 500 ducats from the treasury in New Spain (Mexico) to be added to the funds contributed by the soldiers of the garrison. The governor was also allowed to select a slave who would make beds, cook for the patients, and keep the place clean — all of which had been lacking up to that time.

This first hospital was attached to the Hermita de Nuestra Señora de La Soledad which, according to the Juan José de la Puente map of January 22, 1764, and the Mariano de la Rocque

map of April 25, 1788, was located on the west side of present-day St. George Street and a short distance north of Bridge Street. The property is now owned by the Sisters of St. Joseph.

Thus the first hospital in Florida was established 371 years ago in the oldest city in the United States. The story of this hospital, and those which were to follow, is a departure from the stories on health problems and programs which usually appear in **Florida Health Notes.** We hope you will find these facts about St. Augustine, its hospitals, and how they were managed and supported, fascinating and enlightening. Much of the information came directly from the Stetson Collection, an enormous accumulation of over 100,000 photocopies of old Spanish manuscripts, now in the University of Florida P. K. Yonge Library of Florida History. The original manuscripts are in the Archives General de Indias in Seville, Spain.

Why St. Augustine?

Florida was discovered by Juan Ponce de Leon in 1513 and visited during the next half century by a number of explorers, including Diego Miruelo, Francisco Hernandez de Córdoba and Don Hernándo de Soto, who came looking for gold, slaves or adventure. The peninsula laid along the Bahama Channel through which the gold-laden galleons sailed from Mexico and Panama on the shortest route to Spain. The irregular coastline of Florida, with its bays and inlets, provided haven for pirates; and the Spaniards could not ignore the attacks upon their ships carrying the wealth of the Indies nor the possible colonization of the

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area by a rival sea power. In order to expell the French from a position on the St. Johns River, to protect the gold fleets, and to rescue Spaniards wrecked in the Bahama Channel, the Spaniards decided to establish a permanent colony on the Florida Coast. This was the beginning of St. Augustine.

On September 8, 1565, following a frantic night of preparation to fortify an communal house in the Indian village of Seloy against a possible invasion by the French, Pedro Menéndez de Aviles landed to set up the colony. Fray Francisco López de Mendoza Grajales, the chaplain of the expedition, chronicled the disembarkation and accompanying ceremonies:

> "On Saturday, the 8th of September, the day of the nativity of our Lady, the General disembarked, with numerous banners displayed, trumpets and other martial music resoundings, and amid salvos of artillery."

Normally, the two major purposes of the Spaniards for exploration and colonization were to win land for the Crown and to win souls for the church. The adventurers who sought gold in Florida returned from their quests chagrined. The missionaries were more fruitful. In time the country became a religious province for the Franciscans with a chapter house of the Order of St. Francis at St.



Today the cannons of the Castillo de San Marcos slumber in the Florida sun. For over a century they boomed against pirates, Indians and Englishmen who attacked St. Augustine. Although the Castillo changed hands several times, it was never taken by force.

Augustine. The garrison, itself, was the center of a string of watch stations and missions which were flung across Florida to the Gulf of Mexico and to the north along the Atlantic coast.

The colony at St. Augustine was never self-supporting. The land was too poor and sandy to grow many crops and at times the residents were on the verge of starvation. The troop pay funds from New Spain kept the colony alive. Because of the unfavorable location, Spanish officials seriously considered abandoning St. Augustine at the beginning of the 17th Century. Governor Méndez, one of the most foresighted of Florida's governors, was asked for an opinion and he turned a defense of the colony into a logical plea for future development. His arguments, liberally fortified with statistics, did much to save the situation. Mendez included in his statistics how many lives and how much wealth the garrison had saved from ships wrecked by seasonal storms along the Florida coast.

A priest, Fray Baltasar López, on December 12, 1599, reported to the Crown, "There is little progress in conversion work owing to the lack of assistance to the missionaries, especially since the arrival of Governor Méndez. St. Augustine's location is bad; there are much better areas and ports; a strong wind destroyed part of of the town in September, including part of the fort and guardhouse."

Florida during the early part of the Spanish occupation was a rugged frontier garrison. The early buildings erected at St. Augustine, including the storehouse, were made of timber with palmetto leaf thatched roofs. Some homes had walls of closely joined poles driven into the ground and dirt floors. The roofs were steeply pitched thatched with palmetto and palm leaves or swamp grass.

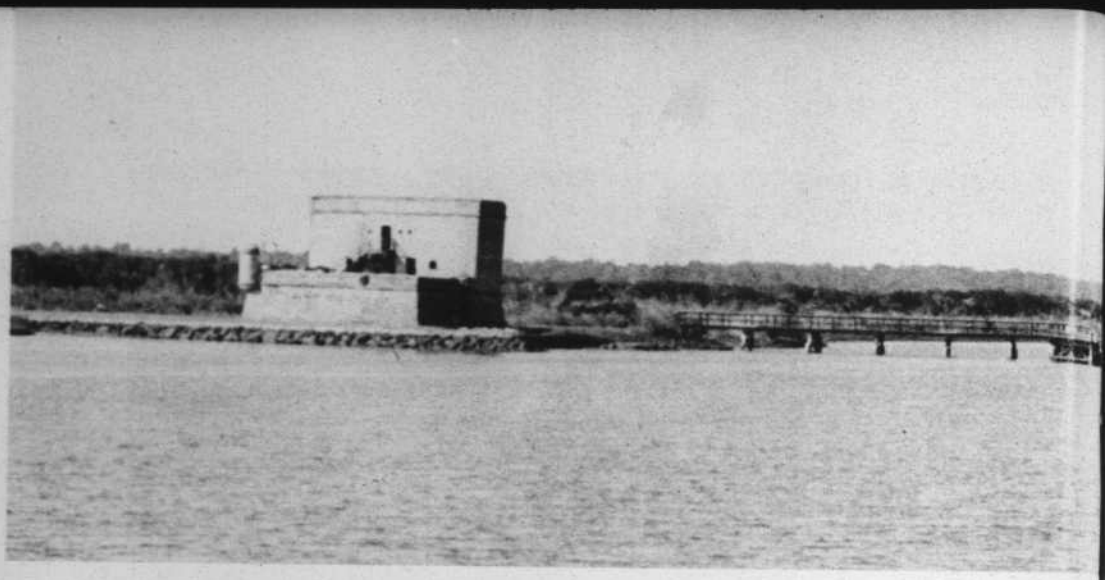
The better houses in the time of Governor Méndez were built with a flat roof and tabby walls (composed of oyster shells, mud and cemented together with lime). As in the style of homes in



Tourists wander today through the courtyard and over the battlements of the Castillo de San Marcos where once 17th Century soldiers lived and fought.

Spain, St. Augustine residents built wall-enclosed patios in the rear of their homes with a cooking oven in the corner. When cold waves swept down from the North, citizens placed live charcoal in braziers to warm the drafty dwellings.

Hospitals were new to Spanish towns in the late 16th Century. A royal decree (**Bulas y Cédulas para Gobierno** of July 3, 1573) stated that each Spanish town was to support two hospitals. One was for the poor, suffering from non-contagious diseases, to be built "adjoining the temple (chapel or church) with a cloister (covered walk) to it." The second hospital was for patients with contagious diseases. It was to be built on elevated ground, if possible, and in a region where prevailing winds would not endanger the rest of the community.



Fort Matanzas, located some 15 miles south of St. Augustine on the Matanzas River, guarded the "backdoor" to the Spanish colony. It was near this spot that Jean Ribault, the Frenchman who tried to attack the garrison in 1565, and his men were slaughtered by the Spaniards.

The first recorded military hospital was mentioned in Francisco Barado's **Museo Militar — Historia del ejército español** (Military Museum — History of the Spanish Army, published in Barcelona about 1883). This three-volume work referred to a decree of July 29, 1579, which said that a hospital was organized by Vespasiano Gonzago Colona in Pampola and carried on by Pedro Bermúdez for the curing of soldiers.

Disaster Strikes the Garrison

Fire destroyed part of the garrison town on March 14, 1599, and many buildings, including the Convent of San Francisco, were destroyed. (A convent is a community or building housing friars, monks or nuns.) Because there was no place for them to go, the friars moved into the Hermita de Nuestra Señors de La Soledad and the adjoining hospital. The first hospital then ceased to exist.

A member of the San Franciscan Brotherhood, Fray Blas de Montez, wrote the Crown on February 25, 1600, telling of the disaster and pleading for help:

"In other letters I have written to Your Majesty, I have given an account of the fire we had on the 14th of March of last year, 1599, in the city. (Some later letters report the fire as May 14, 1599.) Among other houses burned with the church, was ours, and we came to the hospital for shelter, where we still are, and I implore Your Majesty to rebuild our house. The 700 ducats required to repair the house which was burned, and which we hope you will send us, will be placed with the treasurer of this Province until a decision has been reached regarding this country.

"On account of its (St. Augustine's) ruined and barren condition, it is incapable of maintaining so many natives as there are, and as was demonstrated the other day. Many seem to think they will order the garrison removed to another part more advantageous. Should this be the case, your servants will advise you at once of all that occurs."

On June 12, 1600, another priest, Fray Alonsó de las Alas described another disaster which struck St. Augustine:

"On September 22 of the past year, 1599, the tide came in with such fury that the town was entirely flooded and many houses were knocked down, among them the guardhouse and parts of the storehouse; whereby a quantity of Your Majesty's supplies were destroyed. Also, part of the fort was damaged as the waves swept away the wall and bastion on the sea front. The said fort being built of wood, sand and fascine (bunches of sticks)."

The Hospital of Santa Bárbara

Because of the disaster which resulted in the end of the hospital, Governor Méndez, on January 1, 1600, organized another in honor of Santa Bárbara. In a letter to the Crown, he stated, "Since without the hospital, care could not be taken of the sick, I, the Governor, moved by charity and love of God which every good Christian should have, established a house which could be called a 'hospital' taking care personally of all the expenses. This hospital has rooms with beds, mattresses, sheets, pillows and blankets, where persons can be bedded and cured."

The following major conditions were set down for the establishment of the hospital:

* His Majesty would be its patron.
* A majordomo (steward) would be appointed every year who, with the governor, would have a key to a box to be kept in the hospital where alms received would be deposited.
* A book would be kept in which alms received and withdrawals would be recorded.
* Money could be withdrawn by the majordomo so that purchases may be made for what the sick persons needed.
* The hospital would never be reorganized nor attached permanently to any other hospital or brotherhood but that it would always stand, supported by gifts of the people, throughout the years.
* A choral High Mass would be said yearly in honor of Santa Bárbara. Patients admitted in the hospital by the direction of the physician would come in having already received confession and communion.
* In case a patient died in the hospital, all his clothing, dress and arms with which he came into the hospital could belong to it as alms. A funeral Mass would be said for the dead person.
* Because the hospital had no income, except what the Governor gave and alms received from interested persons, the majordomo would record in a separate book the date of admission and date of discharge of each patient. The majordomo would also ask the Governor for two and a half reales to be deducted from the daily rations of each soldier who entered the hospital. Such alms would be deposited in the box.
* The soldiers of the garrison were to contribute 12 reales a year to the support of the hospital, as was customary for the infantry. This money would be given for the maintenance of the hospital and treatment of patients.
* Farmers would be asked for voluntary contributions at the time of harvest and these alms would be recorded in the account book.

* Physicians and surgeons from the garrison would attend the patients and make calls. Sick persons would receive medicines provided annually by the Crown.
* The majordomo would visit the patients every day and purchase what was needed.
* If there was money left over, a female slave would be purchased to care for the sick.
* The majordomo would inform the Governor, or whoever was in charge of the garrison, of any needs and ask him to remedy them.
* The vicar would investigate the founding of the hospital and its organization to see that the regulations were just and convenient for work intended for the service of God.

Fray Ricardo Artur, the vicar general and inspector of the Florida province, noted on January 3, 1600, that he had seen the founding of the Hospital of Santa Bárbara and its articles of organization. Since the founding was a "work of charity by which our Lord, as well as the poor of the garrison would be served," he approved the formation of the hospital and regarded it as adequate.

Governor Méndez reported to the Crown on June 28, 1600, that Fray Baltazar Lopez of the San Franciscan Order had arrived from New Spain and brought 500 ducats which King Phillip II had ordered to be collected in that country for the hospital established for the soldiers of the garrison. The friar also brought 500 additional ducats for the Convent of San Francisco. An additional 2842 reales, which had been found in wrecked ships on the beach of San Mateo and placed in the treasury, were also turned over to the Convent.

A New Hospital is Built

The hospital built in honor of Santa Bárbara existed for several years. But the location did not receive the favor of the next governor. On account of the poor hospital site chosen by his predecessor, Governor Pedro de Ibarra, on December 26, 1605, wrote the Crown:

"Because their church and house burned down, the fathers of San Francisco lived eight years (sic) in the Hermita de Nuestra Señora de La Soledad, from where Governor Gonzalo Méndez de Canzo removed the hospital, which was annexed to the Hermita, and made a separate one in such a bad site and so small that from six soldiers who would be admitted for cure, three would die and the others never get well.

"Since I have now built the said fathers a very good church and a worthy house, I have returned the hospital to the said Hermita, which I have enlarged with alms and almost rebuilt all of it, so that the soldiers and the slaves are cured with much more comfort and care, and without danger of fire which was (present) before.

"For the care of the patients, I am thinking of bringing a brother of the San Juan de Dios from Habana, and with this I can dispense with a soldier who now does it, and (all) this I did with the opinion of the royal officials because they, knowing the great need, asked me to do it.

"Thus I ordered that the palm-thatched house, where the patients had been, be returned to Captain Juan García, who holds power of attorney from Gonzalo Méndez de Canzo, as all that has been said is recorded in papers made on the matter."

The Brotherhood of the Order of San Juan de Dios, one of whom Governor Pedro de Ibarra desired to bring from Havana, had distinguished itself in the service of assistance to wounded and sick soldiers. Members of the Brotherhood not only attended patients in the hospital but were present in combat and accompanied armies into battle where the Brothers collected the wounded. During the 16th and 17th Centuries they gave immeasurable services on many battlefronts of Spain, as well as in the Americas.



The homes of the First Spanish Period were one-story buildings with walled patios. The present two-story structures, with their balconies, were first built during the British Period (1763-1783).

The Hospital in Difficult Times

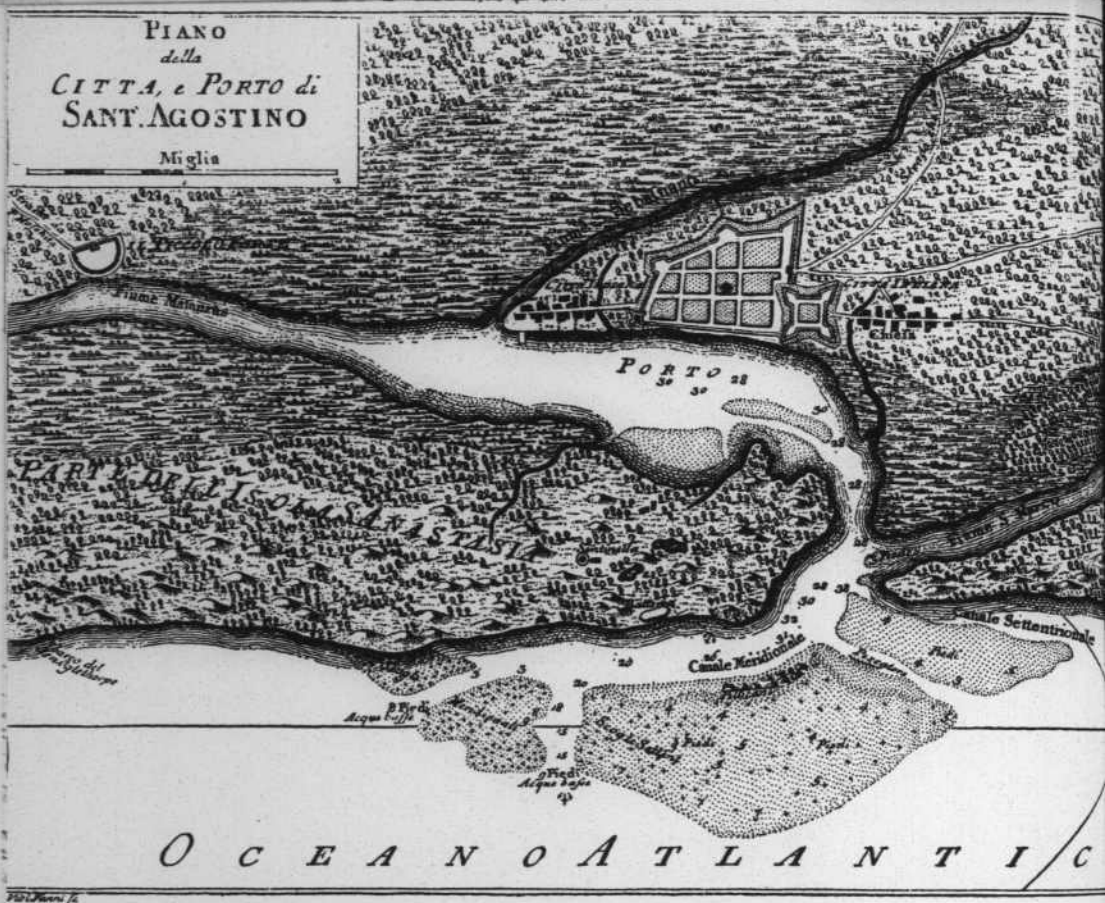
A hospital of one kind or another continued from 1605 in St. Augustine. Whether it was the one attached to the Hermita of Neustra Señora de La Soledad or another Royal Hospital is not ascertained from the writing of the time. If there were more than one at any time, and where they were located, is also not known.

On December 15, 1611, Governor Juan Fernández de Olivera wrote that:

> "The hospital that there is in this city is so poor that it has no other income than the alms which the soldiers give, and it has not been aided with a thing from Your Majesty's treasury, which is the reason why even those who become ill have no place for getting cured, since there is no other (hospital) where they may be cured, which results in great need and discomfort for the ill. I beg Your Majesty to order that it (the hospital) be aided every year with what may be necessary; 200 or 300 ducats every year being sufficient. Since it seems to me that Your Majesty will find it convenient that it (the hospital) be aided with something, I am (already) doing so."

The administration of the hospital suffered from time to time. Not only did the poor, who expected to be taken care of in times

TEXT MAY BE LOST DUE TO TIGHT BINDING



This plan of St. Augustine and its port was made about 1763 for Il GAZIETTIERE AMERICANO.

of sickness, contribute alms (somewhat in the manner of Medicare) but religious plays were enacted in the Hermita and at times in the hospital for the benefit of the sick.

Not only the hospital, but the church and community saw times of destitution. The king's chest in the fort was nearly always empty and there were many soldiers whose pay was four to six years in arrears. At times the soldiers were so poverty-stricken and naked that they could not mount guard.

Everyone was not happy in the Florida colony. Under some of the governors, soldiers were "ill treated and afflicted." Juan Nuñez Ríos, a soldier in the time of Governor Méndez, wrote on

February 19, 1600, "If one of the soldiers is sick requiring anything and sends to ask for money to get the needed medicine, the Governor refuses to give it, forcing him to buy it from Juan García . . ." He added that ". . . all lawsuits or troubles of any kind which arise are brought before the Governor by the same Juan García, who seems to be supreme."

From time to time there seemed to have been friction between the priests and the governors. Governor Ibarra wrote on June 20, 1615, that the annual cost of each priest was 1535 reales. An undated letter of Governor Juan de Treviño Guillamas requested that the number of friars be reduced and that they should not fill the plazas and have the pay of soldiers. He added that while there were many people who required many priests, there were too many of them. On the other hand, Fray Alonso de Jesús on February 27, 1635, requested more missionary priests, stating that "24 priests are needed—only 12 were sent by the Crown." This friction developed from conflict of jurisdiction over the Indians and various phases of life in the garrison. At times, the hospital was a point of conflict between the governors and the clergy.

Expansion, Pirates and the Castillo

During the half century following its founding, St. Augustine acquired a permanent population — despite the people who left because of starvation, frustration and desertion. Some of the soldiers married and settled permanently in the colony and raised families. In 1657, St. Augustine was a city of 300 men, who occupied authorized positions in the garrison, plus women, children and other men who were not counted in the official strength of the presidio. The city contained a convent of the Order of San Francis; a main church with a pastor, vicar and chaplain for the soldiers; a Royal Hospital dedicated to the Nuestra Señora de La Soledad; Brotherhoods of the Most Holy Sacrament and Las Animas; another hospital for the curing of the poor; and, a Hermita of Santa Bárbara.

An English pirate, Robert Searles, alias Davis, sacked St. Augustine in 1668 without sparing the parish church, the Convent of San



This ornate bed, where dead persons were laid in state, is on display in the Spanish hospital and apothecary shop on Aviles Street. The 18th Century building was converted from a stable to a hospital during the English Period and it continued as such into the Second Spanish Period.

Francisco, the hospital and other religious brotherhoods. The raid came after an argument had developed between Governor Francisco de la Guerra y de Vega and a French surgeon, Pedro Pique. The Frenchman set sail by ship for Havana and off the coast of Florida his ship was captured by pirates. The disgruntled doctor took his revenge on the governor by revealing to the pirates the proper signals and thus they were able to gain entrance to the harbor. They sacked the presidio, killed some 60 people and took everything of value they could carry away.

The next year, the Marqués de Mancera, viceroy to New Spain, wrote the Crown that Sergeant Major Salvodor de Cigarroa had come from Florida, empowered by Governor Guerra to collect funds for the support of the garrison. He was also to ask that the hospital in St. Augustine be furnished quantities of cloth for sheets and mattresses and other small items.

Following the attack by Searles, the Spanish authorities decided to build a permanent fort of stone. The incident made clear to the Spanish that the attack was more than a chance visit. Before the English adventures left, they carefully surveyed the harbor, promising to return in force to seize the place for a base of operation against the "Vessels of the Indies Trade."

The first fort used by the Spanish in St. Augustine was a reinforced Indian communal house. Eight other forts followed through the years, but they were built of wood and became victims of storms. As early as 1570, someone had suggested that stone might be imported from Cuba for the construction of a proper fort. In 1580, Pedro Menendez Marques discovered the existence of coquina stone on Anastasia Island and after the construction of the Castillo de San Marcos the settlers began to quarry and use the stone.

The tenth fort, the Castillo, was begun on a Sunday afternoon in 1672 and it took about 23 years intermittently to build. After the erection of the Castillo, coquina came into use as building material and by 1763 there were some 200 dwellings, as well as the parish church, the convent, governor's mansion and the hospital made of this shellrock.

A Change in Hospital Administration

The hospital in St. Augustine was always under the custody of the government. Although the first one had been attached to the Hermita of Nuestra Señora de La Soledad, it was not administered by the priests.

When Governor Juan Marques Cabrera arrived in Florida in 1680, he found the hospital in a state of deterioration. An Englishman, Charles Robson, was acting as a surgeon even though he was not a doctor and was drunk half the time. A soldier, with no knowledge of medications, was serving as pharmacist. A total of 1500 pesos of medicines was being sent annually from New Spain and these were being misused; soldiers were taking away mattresses and clothing. The hospital was supported by contributions from the soldiers in the garrison and majordomos were paying 100 pesos a year for the opportunity to handle these contributions. Governor Cabrera appointed Sergeant Major Domingo de Leturiondo, at 15 pesos a year, as administrator of the hospital who petitioned the governor to ask for three Brothers of the Order of San Juan de Dios to take charge of the hospital. These friars were serving in many hospitals and garrisons in the Americas.

In answer to Governor Cabrera's request, Friar Pedro de Bolívar, the Commissary General of the Order of Hospitality of Our Father

of San Juan de Dios, appointed a Reverend Father Gerónimo de Nadales to take charge of the hospital. He offered to send another friar to be in charge of the sacraments and tend to the spiritual needs of the infantry.

The royal officials of St. Augustine agreed to support the petition. Since the hospital was attached (at the time) to the Hermita of Nuestra Señora de La Soledad and the Hermita was a part of the parish, Governor Cabrera wanted the parish priest to see the document and state his views on the matter.

The main objective of Cabrera was to put the hospital on a sound footing. Since the founding governor, Gonzalo Méndez de Canzo, had given instructions that the hospital not be joined to another hospital or brotherhood and that the hospital be actively supported by contributions, there was ample authority for succeeding governors to divert contributions to other works of charity if the hospital ceased operations.

Fray Domingo de la Berrera, the guardian of the Convent of San Francisco and its chapter house, protested the arrival of the Brothers of the Order of San Juan de Dios on the grounds that they were going to set up another monastary and this was illegal according to a royal decree.

The royal treasury officials of Florida petitioned Governor Cabrera not to let the "inadequate objections" of the San Franciscan priests frustrate the benefits the hospital and garrison would receive from having the Order of San Juan de Dios in St. Augustine. The governor rejected the protests of the San Franciscans and agreed with the officials to

* assign an adequate site to the Order of San Juan de Dios for the building of a hospital in St. Augustine;
* give the administration of the hospital to the Order of San Juan de Dios;
* allow the friars to receive soldiers who need care into their residence until the hospital could be completed;
* give the friars appointments of surgeon, pharmacist and nurse;
* assign the friars the six reales that each soldier contributed for medicine;

* assign the friars the two and a half reales of daily rations that each of the soldiers received for each day of confinement in the hospital; and,
* discharge the current surgeon, pharmacist and nurse.

Fray Nadales agreed to the conditions of the agreement with the stipulation that the title of the hospital not be given to the Order, since the members had taken a pledge of poverty, and that they be allowed only to administer the hospital; that they be given only the positions of surgeon and pharmacist; and they be allowed to receive permission from their superior before taking sick soldiers into their residence.

The Hospital in Later Years

After Fray Nadales started taking sick soldiers into his residence in 1685, no mention of the hospital has been found in the writing of St. Augustine residents and officials until 1740.

Adjacent to the Castillo de San Marcos is the gateway which was built during the Second Spanish Period (1783-1821). The remains of the moated palisades, begun in 1704, can still be seen nearby.



Value of Spanish Money

Money played an important part in the building of the first hospital in the United States. J. Villasana Haggard, in his HANDBOOK FOR TRANSLATORS OF SPANISH DOCUMENTS, estimated one reale in 1600 to equal 20 cents in American money at the 1933 value. One peso was equal to eight reales — or $1.60; a ducat was worth 11 reales — or $2.20 at the 1933 value.

This means that the Crown contributed 500 ducats — or $1100 — to the building of the first hospital in 1597. Soldiers contributed 12 reales a year — or $2.40 — toward their hospital costs or support of the hospital.

On August 19 of that year, Governor Manuel de Montiano of Florida wrote the governor of Havana that the Auxiliary Bishop of Cuba, who resided in St. Augustine, wanted to take over the administration of the sick in the hospital as a charitable task.

An interesting note was made by the royal officials of Florida to the Crown on September 14, 1713 that three pesos a year were deducted from every man's pay in the Florida garrison for barber's services, hospitalization and medicines. The individual soldier's monthly rations consisted of two and a half **arrobas** of flour and an extra **arroba** of flour or maize which were chargeable to his salary at the price these staples cost in New Spain. (One **arroba** equaled 25 pounds.) The extra issues, plus some meat or pork and salt, amounted to nearly 100 pesos a year. To put this into the context of those times, the ordinary private in the garrison received a yearly salary of 158 pesos.

The parish priest, Juan José Solana, gave a description of the hospital on April 22, 1759, when he wrote the Bishop of Cuba:

> "The hospital is a house which was the residence of Accountant Francisco Menéndez Marqués, but newly rebuilt. It has two salas (large rooms), one on the ground level, the other upstairs, each with a capacity for 12 beds. There are

two interior rooms downstairs, reserved for elderly persons. There is a masonry kitchen, roofed with boards. In a room in the kitchen, live two convicts who care for the sick. The hospital has a lot so spacious that medicinal herbs could be planted in it."

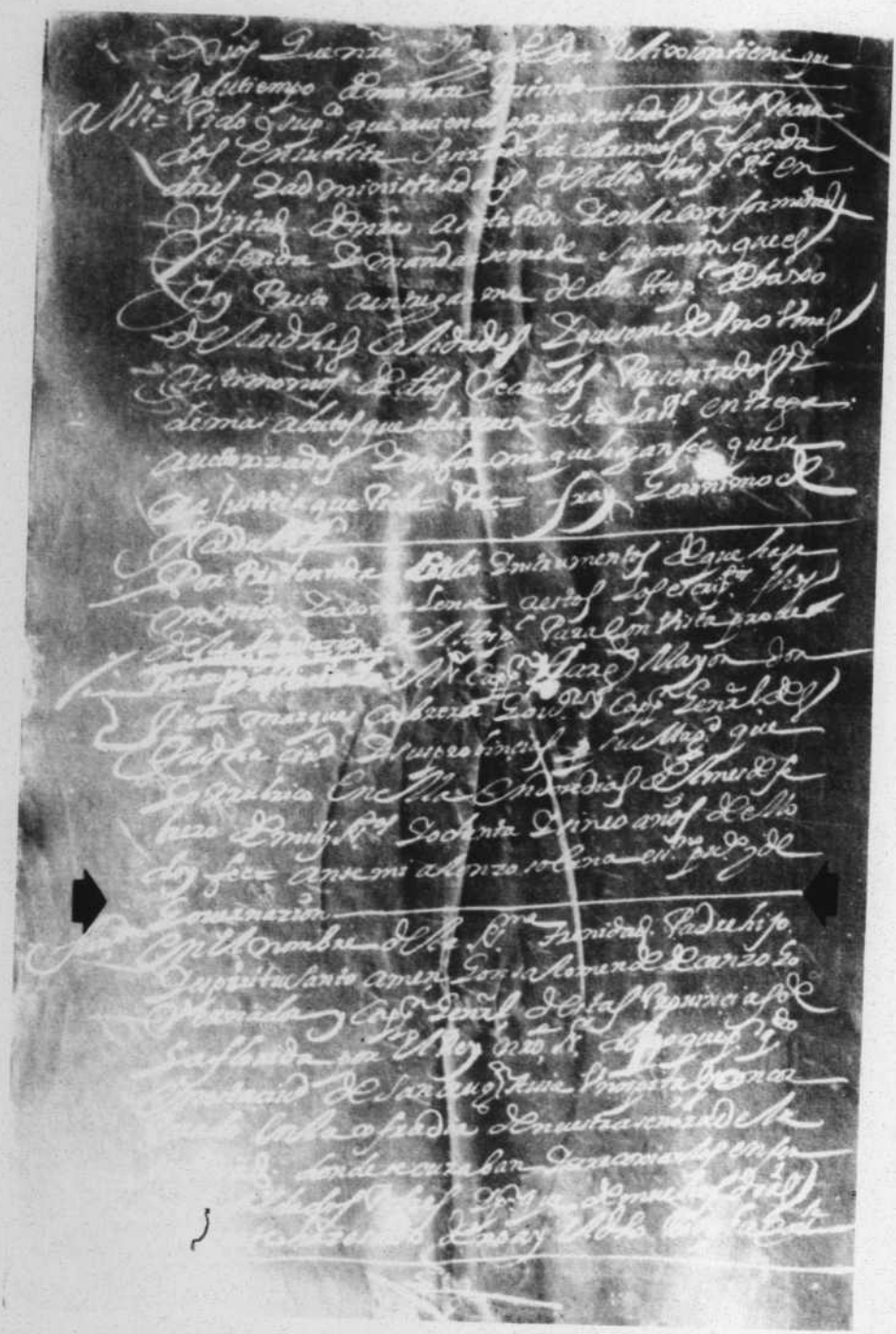
Father Solana was concerned about the care of the patients. He noted:

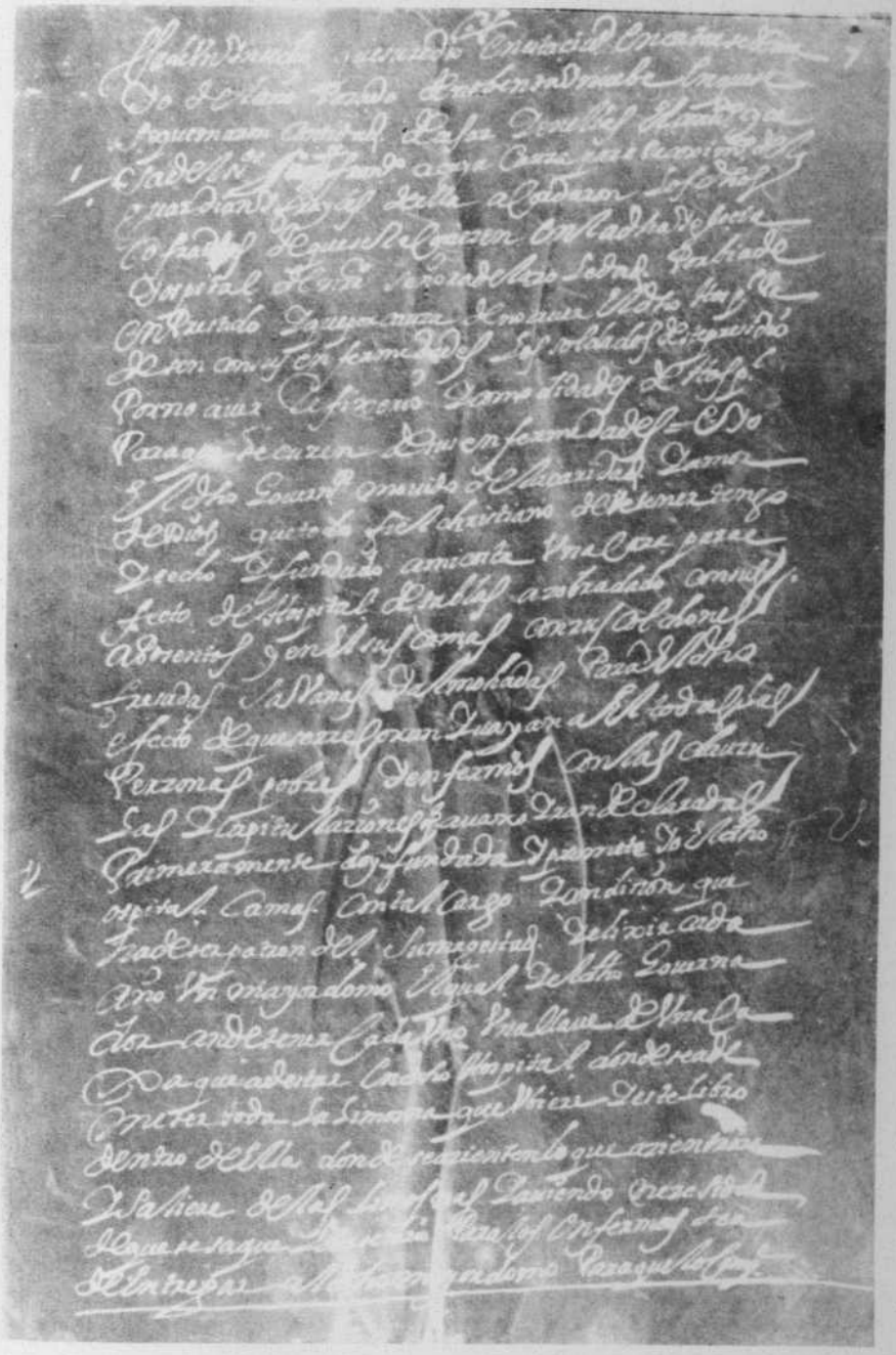
"The almost complete destitution experienced by the poor patients deserves no little attention from the pious concern of Your Most Illustrious Lordship (Bishop of Cuba). This hospital receives every month 500 reales deducted from the soldiers, and one real a day from the hospitalized patients. Yet due to the lack of an individual employed exclusively to take care of the patients, there is experienced so much carelessness in temporal and spiritual matters that it would cause compassion in the least compassionate heart and even in the most tyrannical. I propose that the governor and the bishop, or his vicar, elect a majordomo who has demonstrated inclination toward compassion, with salary equivalent to that of a gunner, a lieutenant and a fusilier combined, and that one, two or as many convicts as necessary, be subject to the majordomo to attend the urgencies and needs of the patients. The majordomo would keep account of expenses and monthly income."

Years of Frustration

From the time the first hospital was organized in 1597 until 1759 when Father Solana wrote his letter, the hospitals of St. Augustine grew and declined under good and bad governors. Some were interested in the hospitals and the care of the sick. Others apparently allowed the institutions to collapse without

(Continued on Page 53)





Following is a modern Spanish translation of the old Spanish manuscripts (on pages 50 and 51) which describe the founding of the hospital of Santa Barbara (beginning at the arrow). The original manuscripts are in the Archives General de Indias in Seville, Spain. These photostats came from the University of Florida P. K. Yonge Library of Florida History.

Fundación

En el nombre de la Santísima Trinidad, padre, hijo y Espíritu Santo. Amen.—Yo, Gonzalo Méndez de Canzo, Gobernador y Capitán General de éstas provincias de La Florida, habiendo sido asignado a ésta posición por Su Majestad el Rey, hago las siguientes declaraciones: Aquí en San Agustín hubo en un tiempo un hospital incorporado a la Cofradia de Nuestra Señora de la Soledad donde se ingresaba a los soldados enfermos y personas pobres. El día 14 de mayo de 1599 hubo un fuego en esta ciudad en el cual se quemaron el Convento, la Casa Secular de San Francisco, y una gran cantidad de viviendas. Después de éste incendio se refugiaron los frailes en la Cofradía de Nuestra Señora de la Soledad. Como ya no existe el hospital la están pasando muy mal los soldados de esta fortaleza militar ya que se enferman y no se les puede ofrecer cura a sus mals. Yo he decidido; movido de la caridad y el amor de Dios que todo fiel cristiano debe tener; fundar un hospital, erigiendo una casa de madera con habitaciones en las cuales haya camas con sus colchones así como frazadas, sábanas y almohadas. Este hospital acogèrá a todas las personas pobres que estén enfermas: Las siguientes claúsulas regirán su administración: Primera—Yo funda el hospital y lo proveo del equipo necesario. Pido que Su Majestad lo patrocine y elija un Administrador todo los años. Esta persona y yo tendremos llaves de una caja fuerte donde se irán depositando las donaciones que reciba el hospital. Aquí se guardarán tablién los libros de cuentas donde se apuntará el dinero que se le tenga que entregar al Administrador para que compre.

Acknowledgements

Much of the material for this issue of Florida Health Notes has been obtained through the assistance of Mrs. Victoria Ginorio, health educator with the Dade County Department of Public Health.

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much concern. Problems of caring for the sick, the shortage of funds and the administration of the hospital were constant.

Because of the lack of a continuing administration, the hospital did not develop into a major service to the garrison. There were also more important problems of survival and wars. Medical science and the art of nursing had not developed in the time of St. Augustine to the point they have today. The only similarity between the little hospital attached to the Hermita of Nuestra Señora de La Soledad and the distinctive institutions of 1968 is the idea that a sick person needs medical care.

Following is the English translation of the Spanish on page 52:

In the name of the Holy Trinity, Father, Son and Holy Ghost. Amen. I, Gonzalo Mendez de Canzo, Governor and General Captain of the provinces of La Florida, appointed by His Majesty, the King, declare: There was in this city of St. Augustine, a hospital incorporated to the order of Our Holy Lady of Solitude, where poor, sick infantry men were sheltered and medically treated. This hospital ceased to exist last year on May 14, 1599, due to a fire in which many houses, as well as the Franciscans' Chapter House, were destroyed. For that reason, many persons were taken care of in the Church of Our Lady of Solitude. Since without the hospital, care could not to taken of the sick, I, the Governor, moved by charity and love of God, which every good Christian should have, established a house which was called "hospital" taking care personally of all the expenses. This hospital has rooms with beds, mattresses, sheets, pillows and blankets, where persons can be bedded and cured. The following conditions and clauses will prevail:

I pronounce this hospital as founded and I promise beds in said hospital on one condition: that it should always be patronized by His Majesty. A majordomo will be chosen every year, who, with the Governor, should have a key to a box placed within the limits of the hospital, or a bedroom, in which all donations will be placed. There will also be a book in which entries will be made and all expenses written down. When there will be need of withdrawing the necessary money for the sick person, this money will be given to the majordomo so that he can buy, or have someone buy, whatever is needed.

Other Events of the Period

In order to put the founding of St. Augustine and the first hospitals in their historical settings, other events which occurred elsewhere in the world were as follows:

1579 — Francis Drake claimed California for Queen Elizabeth.

1588 — The destruction of the Spanish Armada. A total of 132 ships, with 33,000 soldiers and sailors, destroyed by Drake's attack and storms in the English Channel. Only 50 ships returned to Spain.

1600-1610 — Shakespeare wrote many plays, including Hamlet, The Tempest, Othello and Macbeth.

1607 — Captain John Smith landed at Jamestown, Virginia.

1609 — Henry Hudson discovered the Hudson River and New York Bay.

1611 — St. James version of The Bible was printed in England.

1618 — Beginning of the 30 Years War in Bohemia between Catholics and Protestants.

1620 — Pilgrims landed at Plymouth Rock.

1626 — Manhattan Island bought from the Indians by Peter Minuit for trinkets worth $24.

1632 — The Taj Mahal begun at Agra, India.

1649 — Cromwell started the Commonwealth in England.

1656 — First witch trial began in Salem, Massachusetts.

1664 — Dutch Manhattan seized by English; renamed New York.

1665 — Great Plague killed 66,000 persons in London.

1682 — La Salle took Southern Mississippi Valley for the French; named it Louisiana.

1683 — William Penn signed treaty with Indians in Penn's Woods (Pennsylvania).

FLORIDA HEALTH NOTES

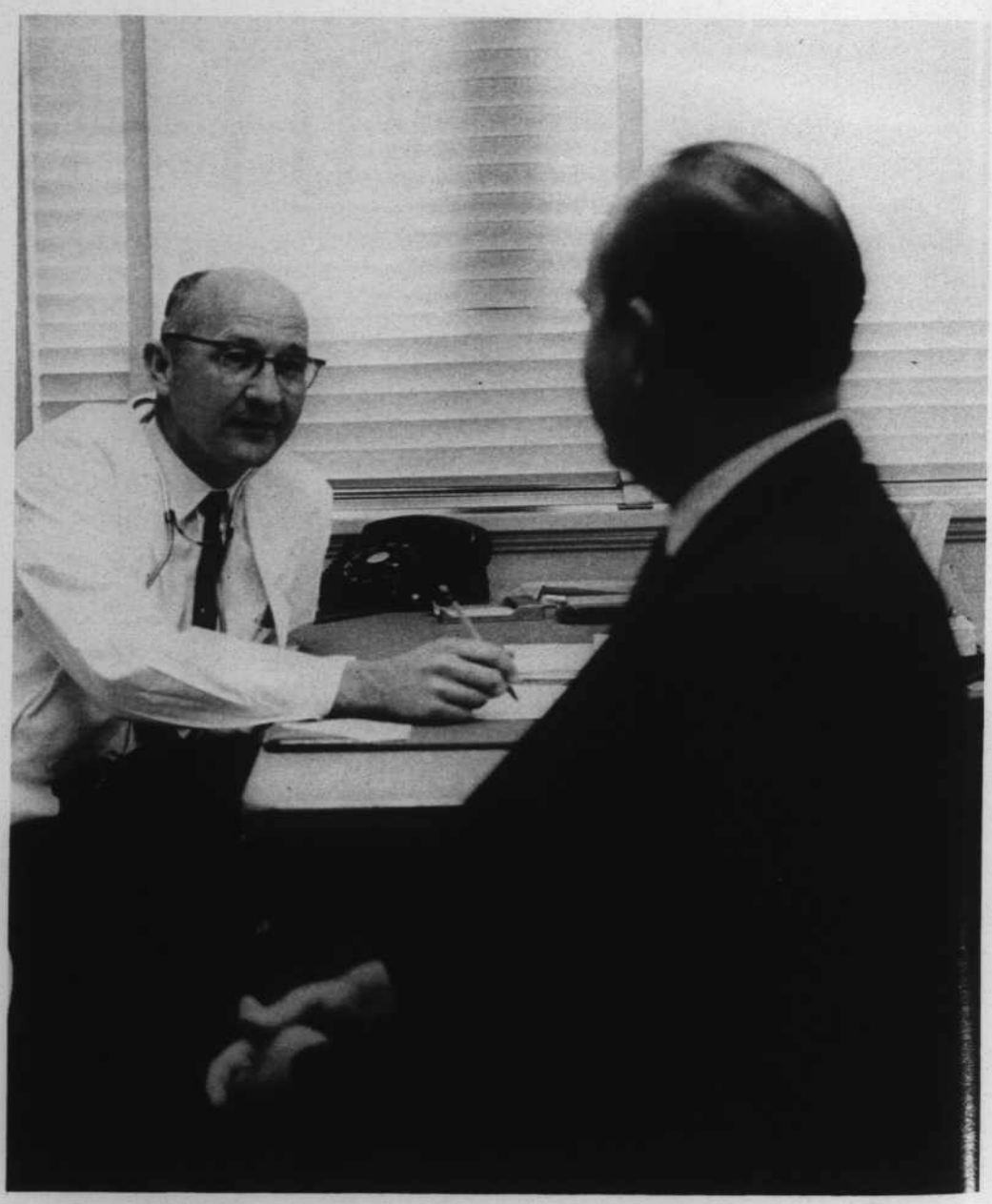


VOL[illegible]ME 60—NO. 3

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BENEFITS OF HEALTH EXAMINATIONS

(Cover photo) Regular health examinations should start early in life and continue throughout a person's life.



An adult's health examination starts with the physician asking the patient questions about his physical condition and medical history.

BENEFITS OF HEALTH EXAMINATIONS

From the beginning of civilization, public health has been the concern of the political unit, whether an absolute monarchy or a form of democracy. The Greeks and Romans had officials in charge of the sanitation of the city, including sewage and garbage disposal, and the offering of sacrifices to the gods to keep away plagues and pestilences.

Public health authorities are still concerned with the same problems — disease prevention. We know that a clean and well-managed environment tends to contain fewer disease germs. But public health goes further today and advocates frequent examination of the human body to find conditions which could lead to serious disease, and urge treatment of such conditions before they can bring on greater illnesses or disabilities.

Because organized health screening programs conducted by trained people usually produce the best results with the least effort and expense, mass screening campaigns and public clinics are set up to discover people who are in the early stages of disease. The more permanent activities are established by government and supported by taxation.

As "mass killer" diseases, which plagued humanity for centuries, fade farther into the background of time, public health authorities turn their attention more and more to the conditions that interfere with child development, adult productivity, and the comfort and longevity of the elderly.

One important factor which has probably always been a problem is that of many individuals who try to avoid visits to public health clinics or private physicians because they are unaware that there could be anything wrong, are afraid of pain, or — probably more basic — have a desire not to know the truth, if the truth will hurt.

The ancient Spartans, and the 20th Century Nazis, required physical examinations of their people. Many examples could be noted of attempts by authorities through persuasion to get people to care for their health.

This issue of **Florida Health Notes** will deal with health and laboratory examinations made by physicians, technicians and public health clinic personnel on individuals at various times in their lives. These tests and evaluation are to discover unhealthy or abnormal conditions in an effort to keep or make people well. The individual is observed and questioned; laboratory tests are made of samples of stool, urine, blood, sputum and tissue scrapings. Even the volume of air a person can breathe in and out of his lungs is very important.

The results of these tests and examinations are used widely and in many ways. The private physician uses them in the diagnosis of a specific illness. County, state, national and international health statisticians use the results in determining the extent of the spread of many kinds of disease. These findings are in turn used in planning health programs on a local or even on a world-wide scale.

A health examination may include only one test, such as sight, hearing or chest X ray; or it may include several tests and call for the services of persons with various kinds of public health or paramedical training. The physician is in charge of the examination, making the decisions and evaluating the significance of the technical findings. He is usually assisted by registered nurses, laboratory technicians of many kinds, X-ray technicians, statisticians and health educators. Many clinics have indispensable volun-

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During the health examination, the physician takes the patient's blood pressure . . .

teers without whom many of the community screening programs could not be undertaken. These volunteers often, but not always, are members of a voluntary health-oriented organization. They are also of immense value to school health testing programs which continue throughout the school year.

Physical Examinations

There are so many types of physical examinations in which a person may be involved — and which he should undergo — that we believe the best and the possibly most interesting way to list them is to follow an average person through life from birth to death, noting the examinations as they might occur chronologically. Because Leslie is a name given to both boys and girls, we will call our observed person Leslie.

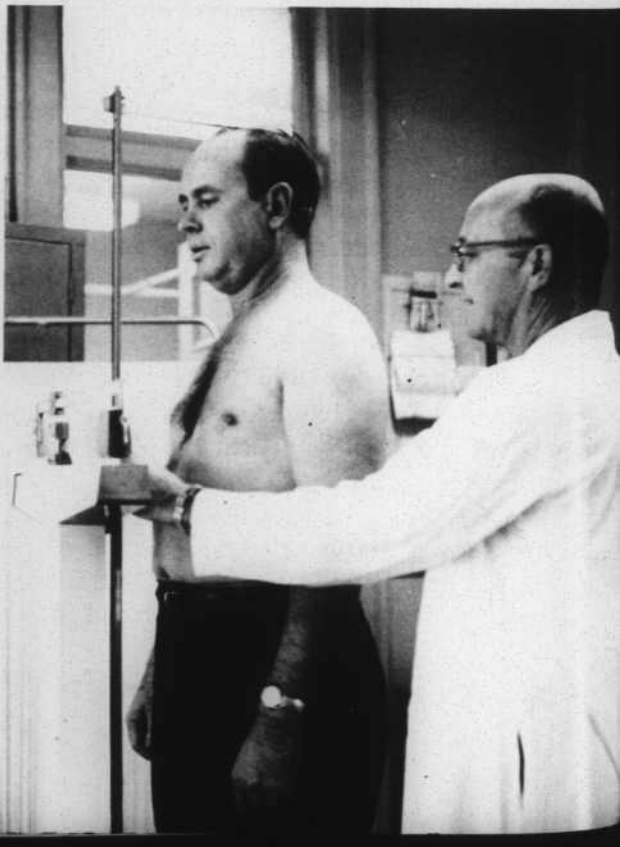
We might say that the first of these examinations occurs long before Leslie is born. According to Florida law, both his father and mother must submit to a blood test for syphilis. This test must be made within 30 days prior to their marriage. As with many couples, the physician also conducts other examinations to make sure that the future parents are healthy people, ready to raise a healthy family. Ideally the examination should include a Rh-determination (a special type of blood test) for both the man and

woman, a pelvic examination of the woman, as well as the usual heart and lungs examination. They may also be counseled on family planning.

At the first suspicion that she may be pregnant, Leslie's mother should consult her family physician or, if she cannot afford private care, go to a public health clinic. She'll receive a general examination, including a pelvic measurement, Papanicolaou smear (a test for possible uterine cancer) and blood studies for syphilis and anemia. Her blood pressure and urine will be checked. She is reexamined periodically throughout her pregnancy and after the child is born, she would return for postnatal follow-up and family planning services.

If Leslie's mother had been a "problem" case — a woman in the medically indigent group whose pregnancy was not proceeding normally—she might have been placed under the care of one of the Mother and Infant Care Projects (MIC), which are supported by federal funds and administered locally. These demonstration pro-

. . . weighs the patient . . .



jects (55 in the nation, five in Florida), place such women under intensive observation and care of specially trained physicians and nurses. The major part of her medical expenses would be paid.

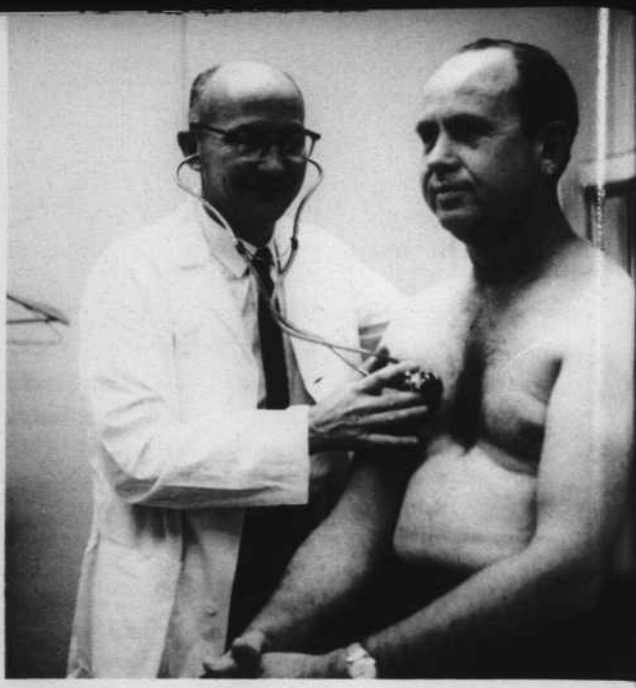
The Midwife and Her Role

In 1900 there were a couple of thousand midwives in Florida. For many years they carried much of the burden of birth attendance. Their patients often lived miles from the nearest doctor. Their knowledge was gained through experience, and their practices were crude. Today, a few midwives still practice but now they have had years of guidance and training under medical professionals and from the nursing divisions of the County Health Departments and the State Board of Health. They know how to assist at a normal birth, recognize trouble and call for medical help when needed. The patient must first be examined by a physician. Then the midwife stays in close contact with her patient a number of times during the prenatal period, and seeks help from the County Health Department if she suspects any abnormality in the mother. The mother is also instructed to return to the County Health Department for postnatal follow-up and family planning services.

Every medical and social effort would be made to bring her through the pregnancy successfully with a healthy baby. She would receive many more examinations than a woman who was progressing normally.

The Beginning Years

Leslie receives his first full-fledged physical examination a few seconds after birth. The physician who delivers the baby examines him thoroughly, looking for abnormalities in physical structure; noting muscular activity; checking on heart, respiratory and lung function; and evidence that the child is not adjusting promptly to life as an independent human being. For instance, the familiar dark blue skin sign of cyanosis (lack of oxygen) quickly tells the doctor that the heart or respiratory system may not be working normally. In a test for phenylketonuria (PKU), the cause of one form of mental retardation, a drop of blood from the baby's heel is placed on a special paper and sent to the public health laboratory. If indications of PKU are found, further tests are made.



. . . listens to the lungs . . .

If the delivery has taken place in a hospital, the child is watched carefully by the attending pediatrician and his staff of nurses 24 hours a day for any indication of abnormality or illness. By the time he leaves for home, Leslie has a most thorough period of observation, including frequent physical examinations.

But the moment he gets home—in some cases—neglect begins. Through ignorance or preoccupation with daily problems, his parents —again, we say in some cases—let well enough alone. If the baby is not obviously sick, he receives only routine, traditional mother and family attention. It is sad to say that this often does not include regular visits to the physician.

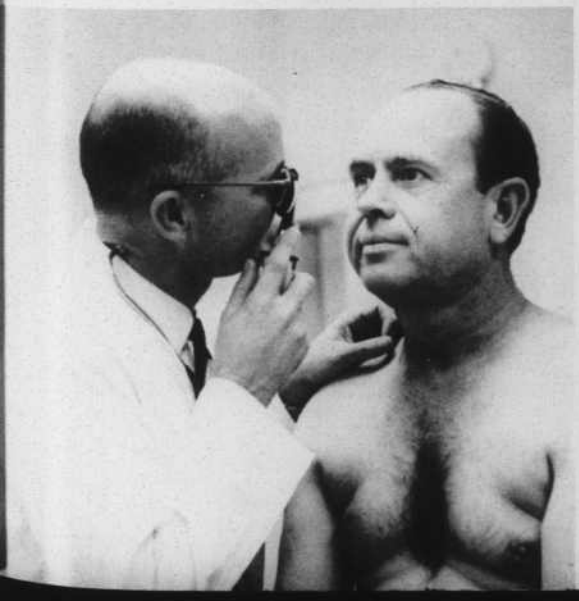
After Leslie has assumed his place in the family, he should be taken to the doctor or a clinic for well-baby care at four or six weeks of age and at frequent intervals during the first six months of life. The intervals should gradually lengthen as he grows older and if all is well. These examinations should include weight and measurements, including chest and head, to determine whether he is growing and developing normally. They should also include observation for normal physical and mental activity, as well as inspection of the skin, eyes, ears, nose, throat, lungs, heart, abdomen, genitalia, arms and legs. At this time he should receive his first immunizations (see **Florida Health Notes,** January 1968). These could actually save his life or prevent forms of serious crippling of mind or

body — as could happen with poliomyelitis and measles encephalitis.

The Lost Years

Now we come to that period which is often frustrating to public health officials. They call it the "lost years." The phrase refers to those years between the attention a newborn infant receives and the first day he shows up for school. They're called the "lost years" because so many Leslies disappear from formal medical care during this time. In most instances, the child is vigorously engaged in what Topsy called "just growing." But because this is not always so, it worries health authorities. During those lost years, from one to six, mental retardation can be detected and become serious; teeth can decay, amblyopia (lazy eye) can develop to the point of no cure, and many other abnormalities can show up.

Leslie should be seen regularly by his family physician or the public health clinic during those years. During this critical period of his development, and for the rest of his life, he needs yearly health examinations by a physician who knows him as a person, and can guide his safe and sturdy development, both mentally and physically. These tests should be no less complete than during his first year of life. They may detect abnormalities which become apparent only as the body grows. Some may result from tooth decay, improper diet, ill-fitting shoes, infection or inheritance. Problems with sight, hearing, gait or posture may become noticeable during these years.

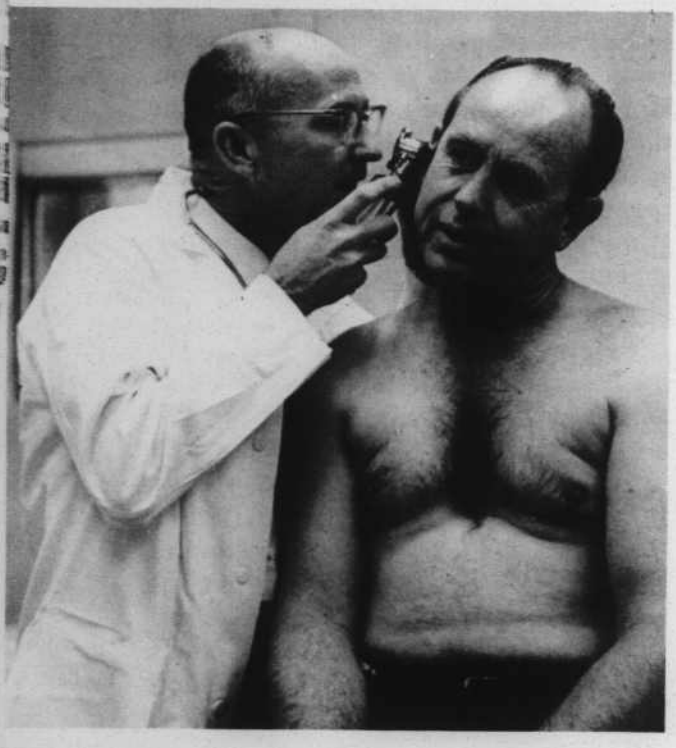


. . . examines the eye grounds . . .

Laboratory tests may include examinations of the blood (for suspected anemia, diabetes or the blood diseases), urine (for evidence of chronic urinary tract infection or malfunction), stools for hookworm and/or other parasites, and skin tests for tuberculosis (followed by X ray of the chest, if the skin test is positive).

The School Years

It's a few weeks before Leslie is to enter school for the first time. His mother takes him to the "preschool roundup," as it is often called. At this time the parents of new first-graders meet with school registration officials and, among other things, receive instructions regarding the need for a copy of the child's birth certificate, the requirements of a physical examination, and the necessity of completing the necessary and required immunizations. A public health nurse and/or school nurse is often present. She screens the children for obvious and glaring abnormalities that may need immediate and special attention, and refers the parents



. . . checks the external ear . . .

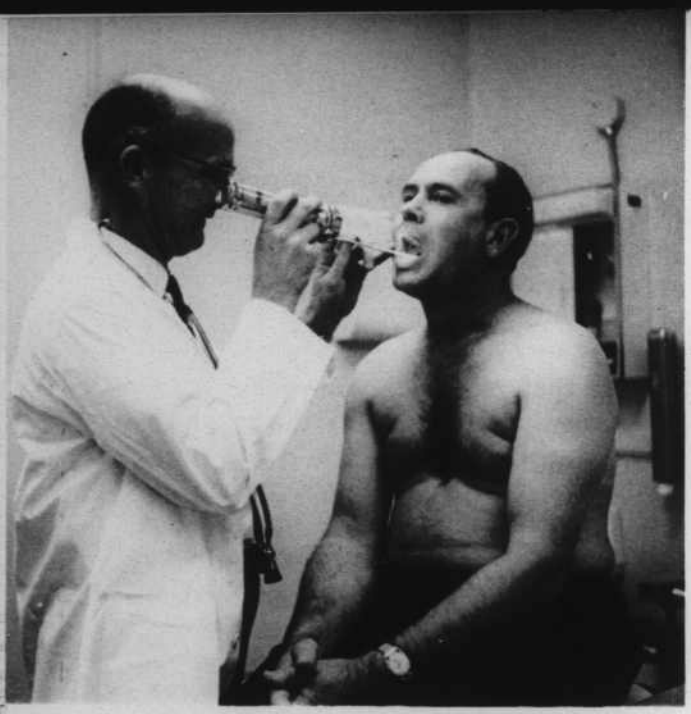
to the proper agency or to the family physician. At the doctor's office or public health clinic, Leslie receives a good examination. His sight, hearing, teeth and mental development are noted; the doctor makes such other tests as he feels may be needed.

Public health officials suggest that parents not wait until the last weeks of summer to make the appointment for their child's preschool examination. In many places physicians would be grateful if these could be scheduled throughout the summer. Such an arrangement avoids the last-minute rush and makes it possible for the doctors to give each child more time and therefore a more thorough examination.

Florida law requires that health surveillance of schoolchildren be conducted throughout the school life of the child. The health records of the individual child is kept with his academic record, and transferred from one school to another, at least within the state, if the family moves. The record indicates the results of the periodic examinations of eyes, ears, teeth, height and weight. Periods of absence due to illness are noted, along with the physician's diagnosis—if known to the school.

Leslie is now in high school. He is an adolescent beset with many problems of that stormy time of life. Acne, greater pressures for academic and social attainment, over-eating or under-eating—so often the result of the gang's whims — all create conditions, situations or feelings which are new to Leslie. Girls at this age sometimes have difficulties with menstruation. All of these problems point up even more the strong need for regular physical examinations, and for rapport with the family physician or pediatrician who can help so much in the stressful process of becoming an adult.

In college Leslie finds that careful health supervision is important because many students are living away from home for the first time. Colleges and universities maintain medical facilities to give the needed health surveillance. However, periodical medical



. . . examines the teeth and mouth . . .

examinations should be continued whether or not young people attend college.

In the early adult and the middle of Leslie's life, health examinations are frequently not regularly scheduled but become a matter of circumstance. Examinations are required of young people entering the Armed Forces; taking many kinds of jobs, especially those which require the skillful operation of complex machinery; or, where the safety of others is directly involved. Such people are fortunate, for the surveillance of their health is done for them with no effort on their part.

Not so fortunate is the man or woman who gets no such on-the-job benefits. For these people there is the possibility of hidden disease or disability which could be treated and arrested if found early, but which may progress through neglect until it is well established. Leslie then goes to the physician's office as a sick person. The road back to health—if possible—is longer, perhaps more painful and so very much more expensive. He stands in danger of developing heart trouble, emphysema (shortness of breath), nephritis (kidney disease), tuberculosis, venereal disease, cancer, diabetes or glaucoma. At this age, the physician may include as part of the health examination, tests for intraocular pressure (which detects early glaucoma), the Pap smear and frequent breast examin-

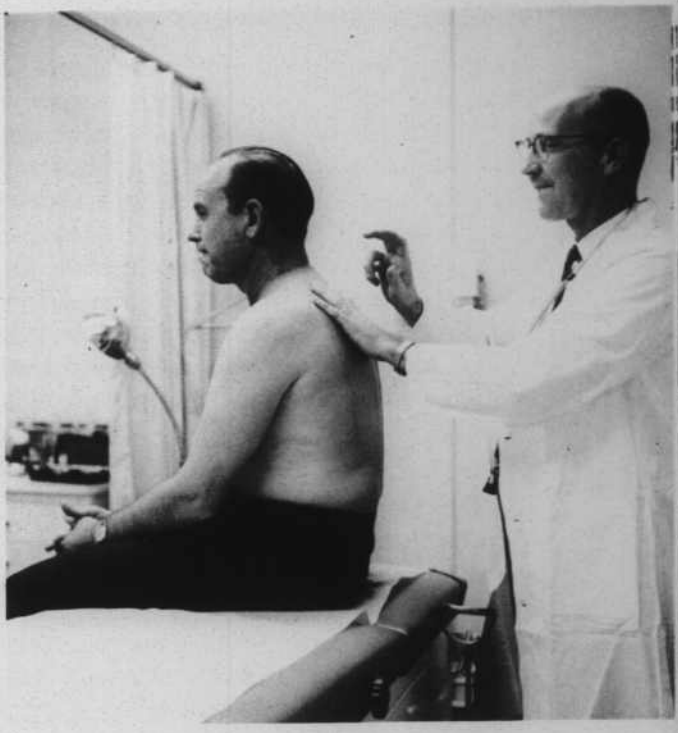
ation for women (which may indicate cancer) and blood pressure, particularly which may reveal diseases of the kidneys or blood vessels. These tests might well be the first evidence to alert the patient and physician for the need for further diagnostic studies and for special treatment which might prevent the development of serious symptoms from such diseases as glaucoma and diabetes.

The Adult Years

There are a number of health examinations which fit special occasions or situations. The food handler in many Florida counties is required to have a "health card." This card signifies to the employer that the holder has had such tests as blood studies, chest X ray and bacteriological examination of stool specimens for disease detection.

The public is made up of individuals, and that which affects an individual may have some effect on the whole community. Public

. . . percusses (taps) the posterior chest . . .

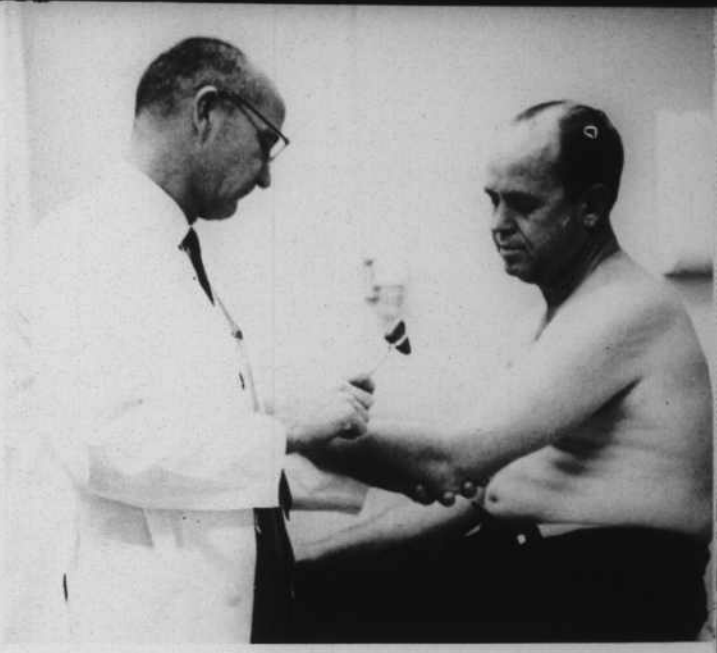


health authorities believe that if the government is responsible for the care of those sick persons who cannot pay the cost themselves, then the government must take the responsibility for prevention of illness in those same persons. It is an economic, as well as a charitable and social, matter. It is also a public health responsibility to make health information available to all the people rich or poor alike.

For that reason the public health program includes many projects and physical examinations which are designed to detect and to treat persons with individual diseases or disabilities. A number of large national voluntary health organizations are devoted to research and eradication of such diseases as cancer, heart disease, respiratory diseases, diabetes, blindness, and several rare crippling diseases involving the muscles and nervous systems. Many of these organizations were formed before the tax-supported programs began and often it was their pioneering that brought public demand for government support of efforts to help those stricken with disease and promote preventive measures.

Today Leslie will find frequent opportunities at fairs, and at organized mass screening (testing) events to get free tests made of blood, eyes, chest (X ray) and may have his urine or blood tested for diabetes. Blood pressure is sometimes taken at such events, and free immunizations against polio, measles, tetanus and other diseases are sometimes given. But these fairs and mass screening projects are not intended to substitute for visits to the doctor's office but they are one means of finding people with undetected diseases and referring them to physicians or public health clinics.

The world of business and industry has accepted the idea that regular health surveillance with examinations of all employees is good sound business practice. The feeling is that a healthy employee is a more valuable employee, with less absenteeism and greater efficiency on the job. Large and small corporations are investing millions of dollars in this principle. It is not charity—it is good business.



. . . checks the patient's reflexes . . .

Controlling Environmental Hazards

In industry, examinations sometimes involve the immediate environment of the employee instead of his body. Tests are made of air and water in the industrial plants. Even the surface touched by the hands of the employees are examined in efforts to detect unhealthy conditions and prevent illness. Unseen and unfelt radiation from X-ray machines and other mechanisms using isotopes or nuclear reactors are carefully watched, and persons working in exposure areas wear sensitive badges which are tested to determine whether employees are getting too much radiation. If they are, they must be shifted to another work area, or sent on leave. The work area often must be redesigned or modified to offer additional radiation protection.

Dental Examinations

If Leslie lives in a relatively low income group, he may receive free dental examinations a number of times in the course of a lifetime. The health of the teeth and mouth is of great importance to the general health of the body. The schoolchild receives dental

surveillance throughout school life, and dental treatment (fillings and extractions) in some counties if he is indigent. The expectant mother in the public clinic is given a dental examination and treatment in counties which have such programs. Indigent residents of nursing homes are examined and dental surgery performed in many programs.

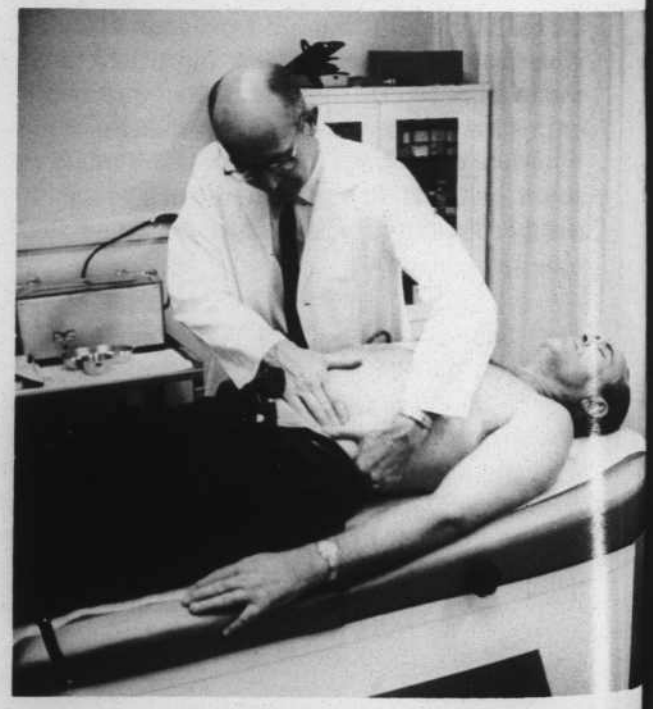
If Leslie is of the more affluent class and able to pay for dental care, he is encouraged to visit his dentist regularly and maintain good dental health practices at home throughout his life.

The Retirement Years

The years have passed and Leslie has reached retirement in good health. Or has he? For the past 10 years he has been a little overweight. He is a little short of breath. But this is the time of life when a person tends to ignore minor aches and pains, a minor dimming of sight, lack of vigor — and even jokes about it. Leslie says he is far from being an old man, and reroofs his garage to prove to himself and his wife that he is as good a man as ever. Let us say he gets by with it!

A few years pass and Leslie is past 70, but still vigorous and active. He notices that he doesn't see too well to the side. At a

. . . examines the abdomen, and . . .





. . . draws a blood sample.

county fair he notices a booth offering free glaucoma testing and he enters out of curiosity. The nurse puts a drop in each eye; a doctor touches each eyeball with a small instrument. A few days later he receives a notice in the mail saying that the tonometer (the device used to measure internal eye pressure) indicated abnormal pressure, and he should visit his eye specialist for further examination. He follows this advice, and the ophthalmologist places him under treatment that will arrest further development of glau-

Although in this issue of FLORIDA HEALTH NOTES we urge people to have annual health examinations, we acknowledge that there may not be enough medical and allied health personnel to provide everyone with this service. The American Medical Association says there is a shortage of physicians, and, with the Federal Government, it is taking steps to train more physicians and other health professionals.



Among other tests, the patient is checked for the maximum expiratory flow rate of the lungs.

coma. Some other symptoms of chronic glaucoma are periodic loss of peripheral vision, inability to see well at night, and colored rings around lights.

Another few years, and Leslie is past 80. His family physician may have had to put him on a low cholesterol diet for he is now picking up weight due to decreased activity and a good appetite. He also is told that he is a borderline diabetic. The doctor insists that Leslie come in regularly for a total health examination which will, among other things, indicate as early as possible any developing cancer or heart trouble. Again, special tests are included for blood presure, tuberculosis, emphysema and anemia. Many elderly people suffer from anemia because of poor diet but Leslie is not one of them. Many of the elderly have chronic coughs which they tend to ignore, but which examination may disclose are due to tuberculosis, heart disease or bronchitis.

By now the aches and pains of old age are evident. Leslie's legs feel weak, and his breath is sometimes short for no apparent reason. There is now evidence that his well cared for body is wearing out, as all bodies eventually do. Death comes eventually. Leslie, one morning, fails to arise on schedule, and his family finds that he has quietly passed away in his sleep.

But the cause of death is obscure. So his physician asks for permission to order an autopsy. This is Leslie's last physical examination. The doctor explains that this will enable him to determine with certainty the cause of death, and that in many cases the findings of autopsy examinations are valuable in planning health programs and treatments that may bring longer life to future generations.

What Does It All Mean?

Many of **Florida Health Notes'** adult and medically-oriented readers — the ones who should be most aware of the value of physical examinations — are frequently guilty of neglect in this field. Time and expense are important factors. The healthy person — or the one who thinks he is healthy — is usually quite busy, and can easily be guilty of putting off for years the chore of arranging for an appointment, and then taking half a day or so to go and have the examination.

Let us be frank about it. The regular, general health examination which the State Board of Health so strongly recommends to every individual is not for sick people. The sick need no such urging. The once-a-year (at least) physical examination is for the well person who is going along in his daily routine without any specific pain, weakness, or noticeable organic malfunction.

The patient is given a chest X-ray.

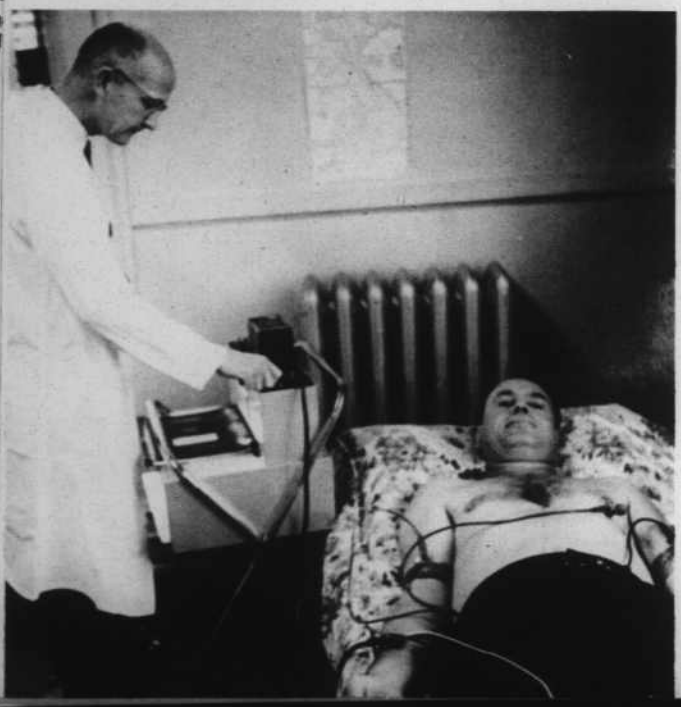


Why?

Modern medicine has progressed to the point where a most remarkable number of tests and procedures is available for finding early signs of disease, deterioration or malfunction. With these tools a competent and experienced physician, assisted by laboratory and X-ray technicians, can discover otherwise undetectable abnormalities that probably would, if neglected, lead to much more serious conditions and begin treatment to combat or correct them. The patient may thus be spared more serious disease and lost time from work and social life.

People in the medical field speak frequently of the frustration they feel when they see signs of neglect: patients who have far advance cancer — who have never seen a physician; women who come into the hospital in labor — who have never seen a doctor; patients whose sight is practically gone with glaucoma; people desperately sick with tuberculosis, diabetes, venereal disease, and many other conditions — all of them detectable and treatable if found in their early stages through health examinations.

Finally, let us pinpoint the problem in terms of the average **Florida Health Notes** reader. This reader is not a member of the lowest income group in the state. He has had, or is in the process of obtaining a good education and is familiar with the things discussed here.



An electrocardiogram tracing is made of the patient's heart beat.



The patient is given a visual acuity examination with a Snelling chart.

How, then, can we motivate YOU to seek the benefits of regular health examinations?

Would this help?

There were 62,356 deaths in Florida in 1966. Of these 26,409 were deaths by some form of violence and deaths of persons over 75 years of age. All the rest — 35,947 — were those of persons who died under the age of 75, and from causes other than violence or accident. It may be reasonable to assume that a large percentage of these persons died of causes which might have been cured or arrested had the first signs or symptoms of their diseases been detected in a health examination.

The State Board of Health's attitude is expressed in this summary:

For the adult who is not consciously sick, or who does not know of any organic malfunction, the only possible way to avoid the slow onset of chronic disease or deterioration is to undergo a general health examination, preferably once a year. To take advantage of additional opportunities offered at mass screening events is also wise and prudent. The State Board of Health urges everyone, for his own good, to follow the course of regular surveillance of his own health status.

That's the story of the value of regular health examinations for everyone. The choice is up to you.

Here are some of the diseases or conditions which may be detected during the course of a general physical examination. These do not include the pathogenically-caused illnesses which may attack anyone at any time.

At birth:
- Heart or lung — faulty structure or function
- Phenylketonuria (PKU) — faulty metabolism which can cause mental retardation
- Any gross organic, muscular or skeletal anomalies (abnormality)

Infancy:
- Organic, muscular or skeletal anomalies not detectable at birth
- Mental retardation
- Metabolic malfunction

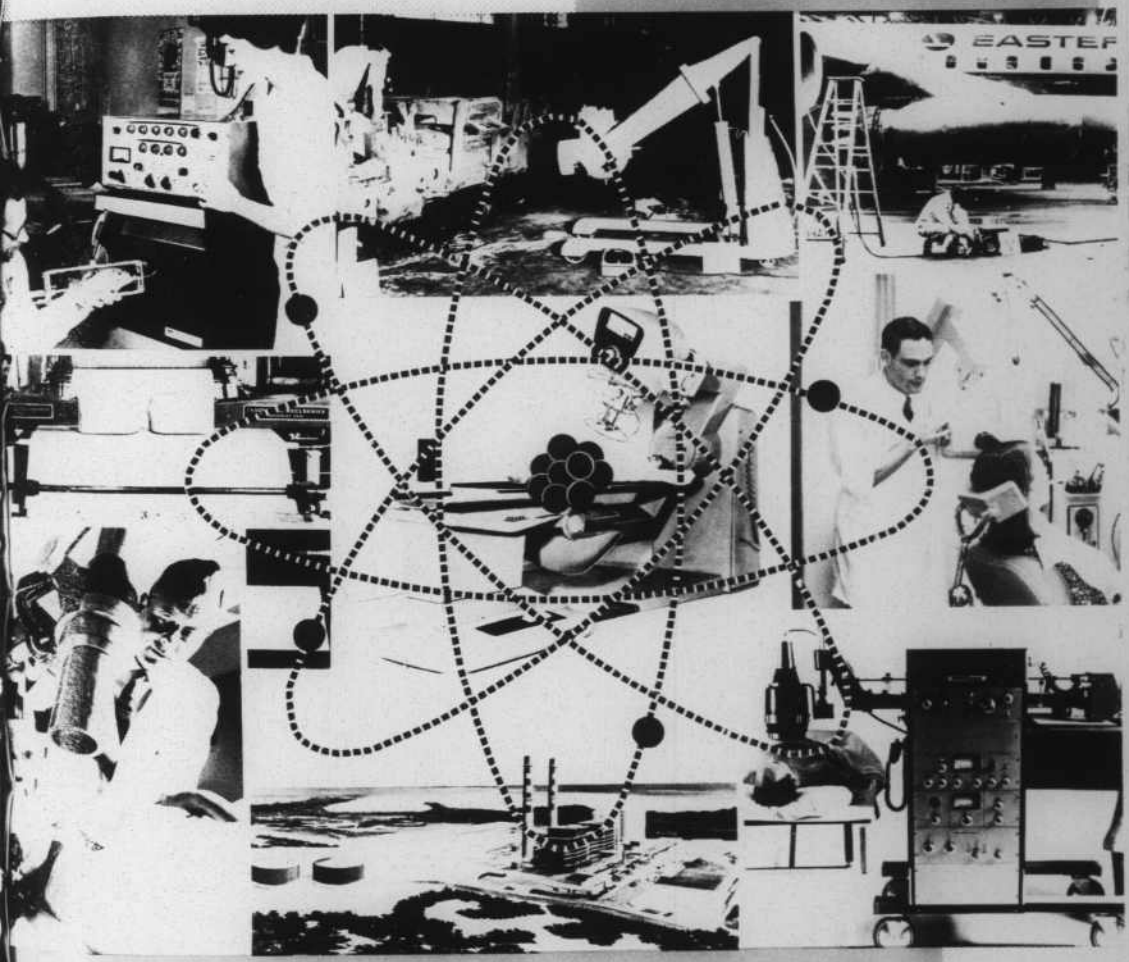
Childhood:
- Dental decay and dental malocculsion (corrected by braces on teeth)
- Conditions named above which do not appear at birth, or develop slowly
- Leukemia
- Amblyopia (lazy eye)

Puberty to retirement:
- Leukemia
- Tuberculosis
- Diabetes
- Venereal disease
- Heart disease
- Liver, kidney, gall bladder diseases
- Glaucoma
- Dental decay
- Obesity — high cholesterol

After retirement:
- Heart disease
- Cancer
- Diabetes
- Glaucoma
- Obesity
- Respiratory diseases

Any of the previously mentioned conditions, except those of infancy, may develop as the body ages. Importance of regular examinations increase with age.

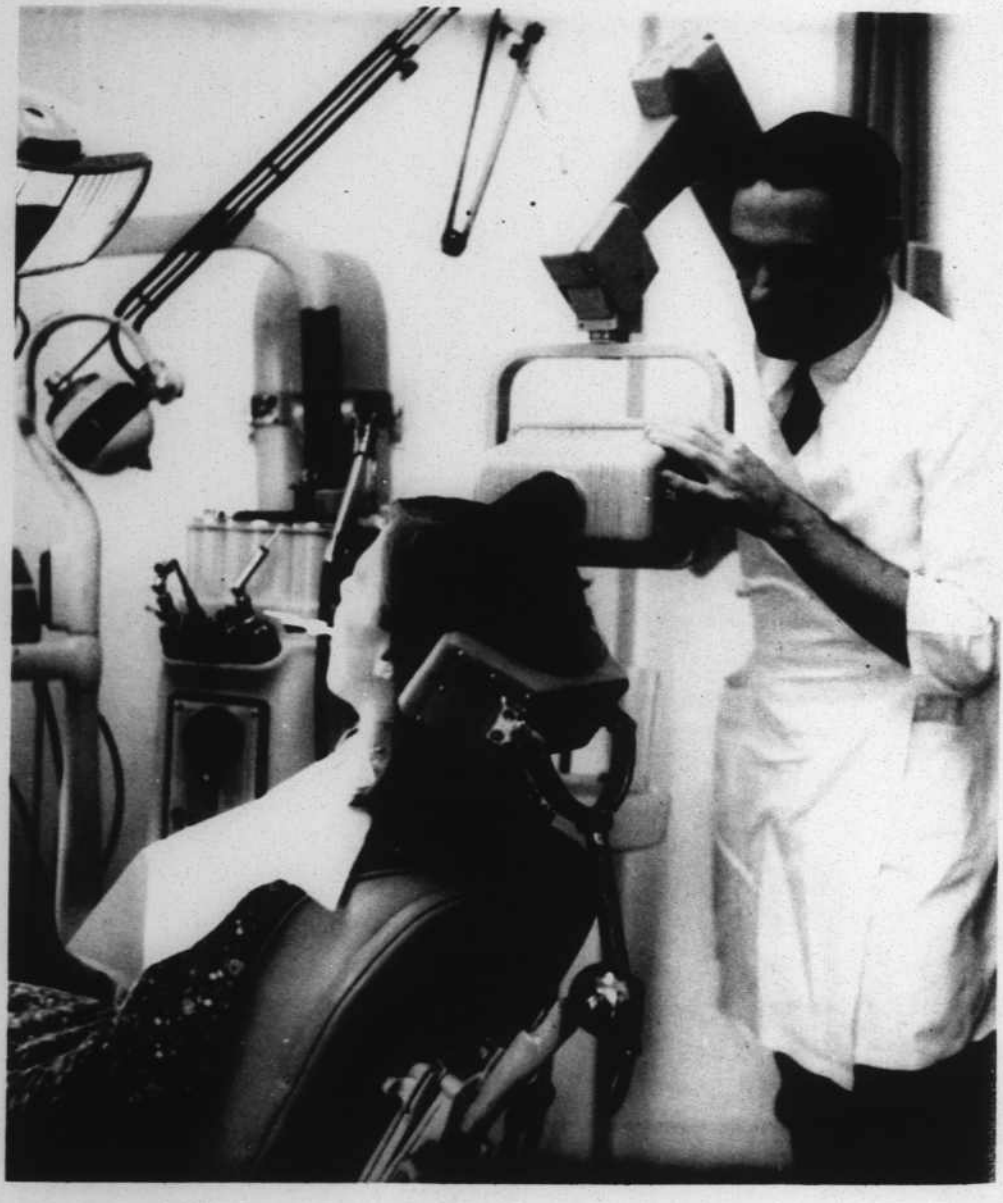
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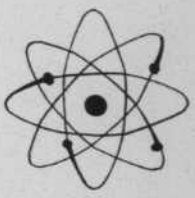
KEEPING THE ATOM FRIENDLY



(Cover photo) The friendly atom works for mankind in many ways, including research, industry, dentistry, medicine (both diagnostic and curative), and in generating power.

A dentist uses X ray in his diagnostic work.

KEEPING THE ATOM FRIENDLY



Everyone comes in contact with friendly atoms every day — through medical use, better products, safer bridges, safer aircraft and even better products, such as catsup which pours easily from a bottle. Paper is made uniform in thickness at a reduced cost because of a nuclear gauge control of processing. The screw worm has been eradicated from Florida through the use of radiation.

But many people think of all aspects of atomic energy as being far removed from them and beyond their comprehension. This issue of **Florida Health Notes** is designed to show you how close to all of us friendly atoms really are and how they affect our daily lives. It also describes the various duties of the State Board of Health in the field of ionizing radiation, which boil down to one main objective—keeping the atom friendly.

The atom is a very small particle. It is indivisible by chemical means and is the fundamental building block of all matter. Atoms are arranged in various combinations to form complex structures, including individual human body cells.

According to present-day theory, an atom contains a dense inner core (the **nucleus**) and a much less dense outer domain consisting of **electrons** in motion around the nucleus. Stable atoms are electrically neutral. However, a natural atom may lose or gain one or more electrons and are then called **ions**. The process by which these changes are accomplished is called ionization and is usually produced by nuclear radiations such as gamma rays or X rays. This type of radiation is called ionizing radiation.

Ionizing Radiation

Ionizing radiation has been in existence since the world began. Many elements which make up the earth and other parts of the physical universe have atoms which give off ionizing radiation constantly and naturally. Both you and your ancestors have been exposed to ionizing radiation as a natural phenomenon. This ionizing radiation comes from outer space; from masonry and rock, soil and air; and, from some of the materials in the human body. To some degree radiation touches everybody wherever they may be. Since this type of radiation has always existed, it is commonly referred to as "background radiation." Man has developed and survived in this environment of ionizing radiation.

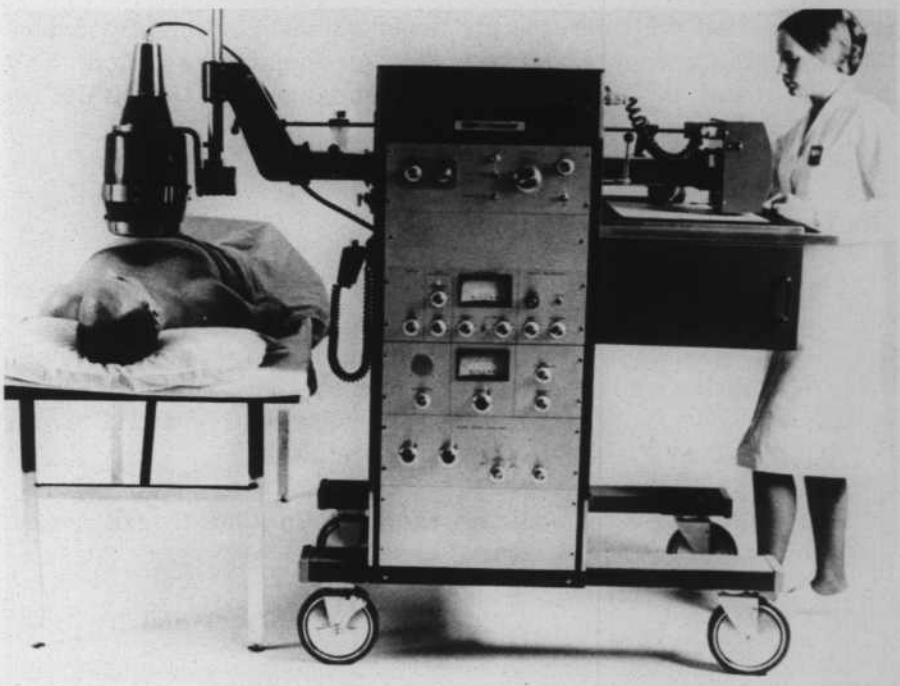
The Discovery and Use of X-Ray

At the end of the 19th Century, man-made radiation came into being. Wilhelm Roentgen, a German physicist, discovered X rays in 1895 and built the tube from which they could be obtained artificially. Thus the radiological sciences had their origin. There are few discoveries in the history of mankind that have generated scientific and public reaction so immediately and so greatly. Within the first year after the announcement of the discovery, almost 1000 scientific papers and many textbooks on X rays were published. The possibility of using X rays in medical diagnosis was recognized at once. In February 1896, **The Journal of the American Medical Association** expressed the cautious opinion that X rays might be useful in the treatment of disease. Evidence of radiation

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A radioisotope scanner is used to detect tumors in the chest

damage was observed soon after the discovery of X rays. Therefore, the need for caution in handling this new and unique tool was recognized very early in its development. Rules for safe handling of X rays have developed over the past 72 years.

Physicians rely more and more on X rays for diagnosis and treatment and there can be very little doubt that this technique has contributed substantially to the progress of medicine. The benefits derived from X rays far outweigh any hazards.

The Atomic Bomb

There is a destructive side to ionizing radiation. On August 6, 1945, an atomic bomb was dropped on Hiroshima and the Japanese city distintegrated in a flash of light brighter than the Florida sun—and Mankind entered the Atomic Age. Twenty-two years have passed and it has become abundantly evident that mod-

ern civilization will increasingly depend on the successful exploitation of atomic energy and new uses for ionizing radiation. This can and must be achieved without endangering the health of present and future generations.

The Use of Ionizing Radiation

Florida is receptive to progress. Yet it is also concerned with the health and safety of its citizens. The 1957 Legislature created the Florida Nuclear Development Commission to work closely with federal agencies and other state agencies. The State Board of Health was given the responsibility of coordinating activities for the utilization and control of ionizing radiation.

The present uses of ionizing radiation in Florida are varied. They may be roughly categorized as:

academic (non-medical)—research, development and teaching;

medical — diagnostic, therapeutic, research, development and teaching;

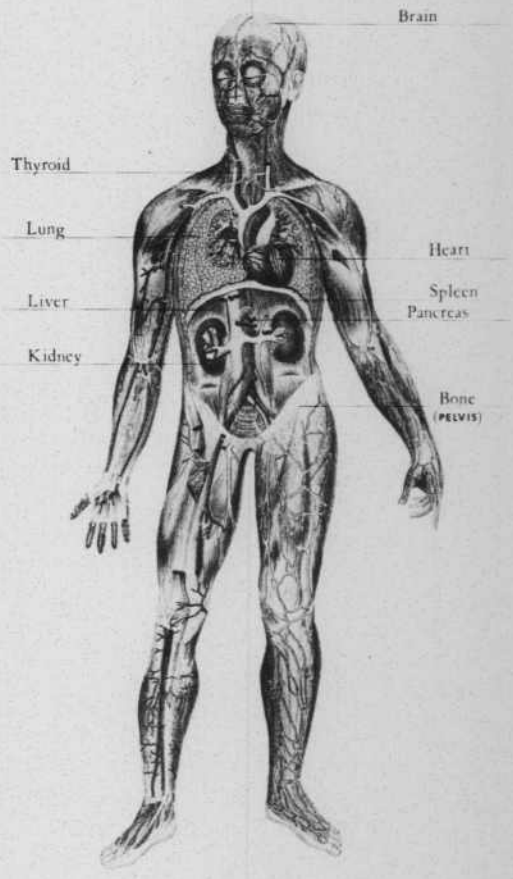
industrial — non-destructive testing, process control and research and development; and,

atomic power.

Academic (Non-medical)

The academic non-medical uses may be divided into two general areas—research and development, and teaching. Both of these are a necessary part of the successful use of radioactive materials. All present day uses of ionizing radiation are the direct result of research. These uses are varied; some are highly sophisticated.

The other important contribution by the academic group is in the area of teaching. Institutions in Florida which have outstanding radioactive materials training programs include the University of Florida, Florida State University, University of Miami, Central Florida Junior College at Ocala, Broward General Hospital and Tampa General Hospital.



A number of important organs of the body can be investigated with a radioisotope scanner.

Use in the Medical Field

The largest group of users and the largest numerical increase in the use of ionizing radiation in Florida during the past three years have been in the field of medicine. When the State Board of Health assumed regulatory control, there were 130 licenses for medical use. At the present time there are 246 such licenses in effect. However, the number of licenses is not the whole story. A few years ago, a typical radioactive material program usually consisted of six or eight diagnostic uses with Radium 226 being used for therapy.

Today, there are 47 routine uses of radioisotopes for diagnosis, 12 routine uses for internal radioisotope therapy and 20 routine uses for external therapy. Routine uses are those which have become well established after having undergone extensive clinical research and evaluation.

The development of reliable instruments and electronic equipment during the past five years has been phenomenal and this has been a strong stimulus to the development of nuclear medicine.

In addition to the routine medical uses approved in Florida, the State Board of Health has received an unusually large number of requests for approval to use a wide variety of radiopharmaceuticals on a non-routine basis. Many of these requests have been approved.

The practice of nuclear medicine in Florida has reached a high degree of competence. Facilities are adequate and training is excellent. For these reasons many physicians who are well trained in nuclear medicine techniques are relocating in Florida to man the ever-increasing facilities. The State Board of Health takes great pride in the fact that physicians trained in Florida usually stay in Florida. For example, the University of Miami School of Medicine has trained 40 physicians in nuclear medicine during the past 30 months and all of them have remained in the state to continue their practice.

You may wonder how this affects you personally. Let us assume that your physician recommends that you have a thyroid uptake test, or a lung scan, or possibly therapy with Cobalt-60. In procedures of this sort, your physician uses energy stored in the nucleus or inner core of the atom. With its aid, he can study functions of your body more effectively than ever before. In the case of Cobalt-60, he may use this energy to treat disease itself, painlessly and selectively.

Thyroid Studies

The doctor's most frequent use of radioactive drugs is in testing the thyroid. This gland is your body's speed governor. It

regulates your rate of metabolism (that is, the rate at which your cells carry on their activities). It also has other vital functions.

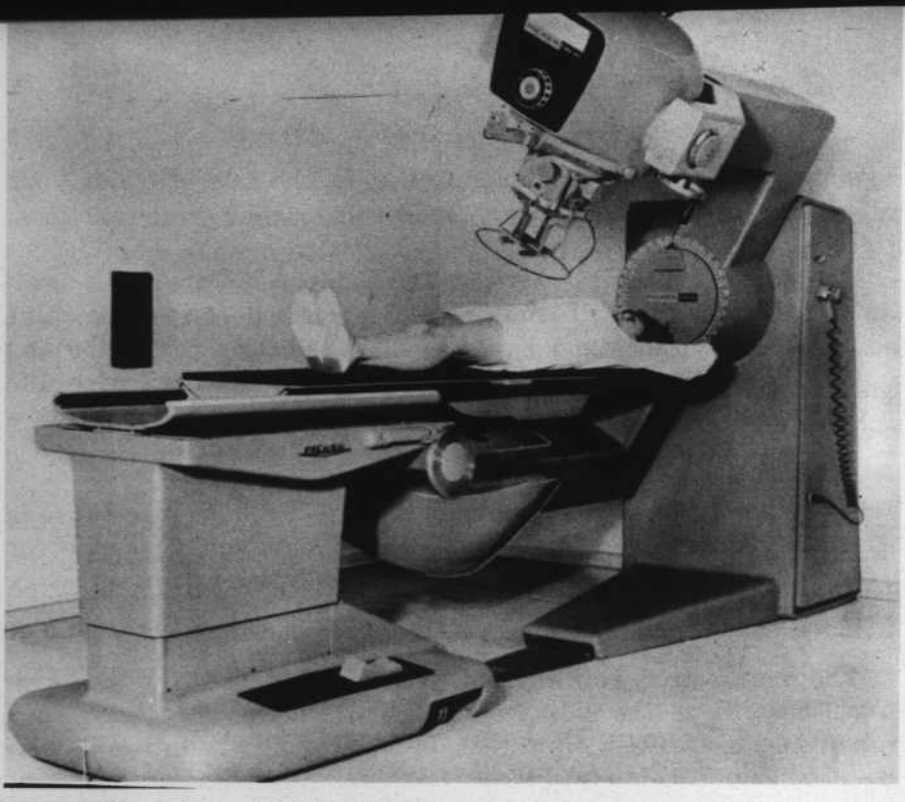
The doctor simply gives you a small, tasteless capsule to swallow at a certain time. It contains a diagnostic dose of radioactive iodine. The thyroid gland has a special attraction for iodine and as you digest the capsule, your blood stream carries Iodine 131 to the thyroid. The more active your thyroid, the faster it takes the radioactive iodine.

A few hours later you are ready to be tested. The procedure is perfectly comfortable. It simply requires that you sit or lie for a few moments while a detector tube is held several inches away from your throat.

The more active your thyroid, the more Iodine 131 it now contains. Rays from the iodine pass right through your neck. They cannot be seen or felt. But with a detector and counting device, the physician can quickly measure them. With this information on your degree of thyroid activity, he can calculate your metabolic rate.



A thyroid up-take study is one of the most common peaceful uses of the atom.



This machine gives a Cobalt—60 external radiation treatment.

Radioisotope Scanning

The visual representation of organs and tumors through the diagnostic use of radioisotopes is now a practice routinely performed in hospitals of every size throughout the state. There is no pain associated with an isotope scan. In many situations, isotope scanning provides more accurate diagnostic information earlier than more traditional methods.

Radioisotope scans are used for detection of lesions to the brain, lungs, thyroids, heart, spleen, liver, pancreas, kidney and bone which may not show up in an X ray.

Therapy—A Success Story

A doctor recently told this story about a cancer patient who was cured by irradiation with Cobalt-60.

A 75-year-old male patient, who had been hoarse for one

month, was treated unsuccessfully with the usual medications given for a bad cold. Examinations of his larynx revealed an ulcerated swelling on the right vocal cord. A biopsy (miscroscopic examination of a tissue sample) revealed the swelling to be a squamous-cell (scale-like) cancer.

Daily radiation treatment using a Cobalt-60 device was started and continued for 31 days. The Cobalt-60 unit is one operated by remote control. It positions the radioactive cobalt over a collimator, which determines the size of the radiation beam reaching the patient. The machine may be made to rotate around the patient or can be used at any desired angle or position.

When the treatment series was in progress, the patient's voice was temporarily made worse, but it returned to normal within the two months after the treatment ended. The radiation destroyed the cancerous growth, and frequent examinations over six years have failed to reveal any regrowth.

The treatment spared the patient's vocal cords, and his voice, airways and food passage were preserved. This dramatic story, with a happy ending, is typical of the cancer cures that are being implemented by the 30 teletherapy units in Florida.

Radiation in Industry

Man-made radioactive elements (radioisotopes) have been serving industry routinely for the past 15 years. The growth of the use of ionizing radiation by industry has been substantial—both in numbers of manufacturers, numbers of sources per manufacturer, and size of source.

When Florida assumed regulatory control from the U. S. Atomic Energy Commission in 1964, 248 licenses were transferred and became Florida licenses. This number has grown to 491, of which approximately 20 per cent are for industrial use. The use of X rays for industrial radiography, that is, taking non-destructive pictures of welds or other assemblies, has experienced a similar growth in recent years. This greatly intensifies the problems of protecting the worker and the public. Such problems have been solved by improved techniques, increased shielding, and meticulous attention to administrative control.

Radioisotopes are used in industry primarily for measuring, testing and processing. Typical examples of the use are:



The airlines industry is just one which uses the friendly atom in Florida. One company uses radiography to check jet engines, thus saving hundreds of manhours in labor.

* measuring the thickness of paper with a radioisotope thickness gauge without touching the paper;

* measuring surface moisture of roadbeds with moisture gauge before paving;

* detecting defects within the interior of a structure; and,

* "seeing" the level of a liquid or substance in a container with a gauge or level indicator.

The latter is used in the beverage industry to sort out at high speed partly filled cans. These gauges are also used in chemical plants to keep inventories of solutions of corrosive materials in tanks.

One major airline inspects its jet airplanes with radioactive material to detect any cracks that may occur and thus prevent

malfunction of the aircraft. During routine maintenance, critical parts deep inside the jet engines are inspected by a procedure which uses Iridum 192. The operation saves 120 man-hours for each inspection.

Nuclear Power

Nuclear electric power generation will be ushered into the state by the Florida Power and Light Company in 1970 when the first of the company's twin 760,000 kilowatt nuclear generators start operating at Turkey Point, south of Miami. The second unit is slated to go into service in 1971.

The Florida Power Corporation has made application for a license to construct two units of 850,000 kilowatts each at Crystal River, north of Tampa. The first of these two units is scheduled for operation in April 1972. Additional nuclear power units are in the early planning stages for Jacksonville and Orlando.

Baseline studies are being conducted by the State Board of Health to establish a present level of radiation which will be compared with studies made after the nuclear power facilities go into operation. Additional sampling will determine if the plants are giving off radiation above normal background levels.

The first unit of the nuclear power generating plant at Turkey Point will start operations in 1970.



Licensing of Radioactive Materials

Following the U. S. Atomic Energy Act of 1954, private use of atomic energy developed under the direction of the U. S. Atomic Energy Commission. This new industry made many technical advances, created many new products and presented many problems which were potentially hazardous to the public. The U. S. Congress decided that control was necessary and a system of licensing was developed by the Atomic Energy Commission.

The U. S. Atomic Energy Commission was authorized in 1959, subject to conditions prescribed by the Act, to enter into an agreement with the governor of any state providing for the transfer of certain regulatory authority from the Commission to the state. Such an agreement was concluded in Florida on July 1, 1964, and radioactive materials licenses previously issued by the Atomic Energy Commission to Florida users were transferred to the State and became Florida licenses.

Applications for possession and use of radioactive materials in Florida are submitted to the State Board of Health where they are evaluated and, if approved, licenses are written.

The average time for evaluating license applications is 30 days. Some applications are relatively simple and are completed in less than a week. Other applications may take more than 30 days. The length of time depends on the completeness of the application and type of license requested, whether it is an initial, institution or private physician license, or a license for industrial radiography.

The procedures used for evaluating applications for state radioactive materials licenses are based on findings and recommendations of such authoritative bodies as the National Council for Radiation Protection and Measurements, International Commission on Radiological Protection, and the Federal Radiation Council.

The reviewer from the State Board of Health's Division of Radiological Health considers the type of facilities; use; types, quantities and physical form of the radionuclides; equipment, instruments, routine and emergency radiation safety procedures;

methods of radioactive waste disposal; special considerations, such as for human use; and the training, experience and other qualifications of the user. After all problems are resolved, the license may be granted. Many times licenses are denied because of insufficiently trained personnel or inappropriate use of radioactive material.

X-Ray Safety

State Board of Health physicists seek ways of controlling and reducing exposure from medical, dental, scientific and industrial applications of radiation while retaining the benefits, and in many cases, increasing the efficiency of the X rays.

Ways to minimize exposure to X-ray machines include:

* filters—aluminum filters which lower the energy radiation leaving the tube head but permits the emission of rays of sufficient energy to penetrate the patient and expose the film;

* collimators — cones or lead rings which confine the beam only to the areas of diagnostic interest;

* gonadal shields—lead aprons which protect the patient or operator from over-exposure;

* area shields — cabinets or lead-backed wood paneling to protect other areas from exposure;

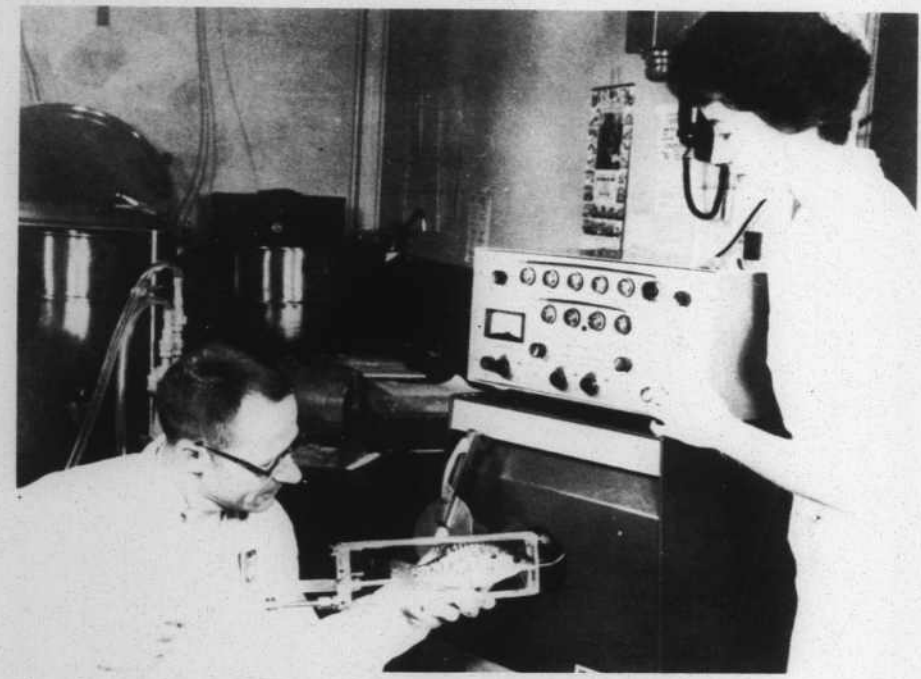
* fast film and favorable developing conditions — materials and situations which reduce exposure by providing clearer X rays in less exposure time; and,

* image intensifiers — equipment which increases fluoroscope efficiency and minimizes the necessity for eyes to become adapted to a dark room.

Radioactive Materials

Both X-ray machines and radioactive substances give off radiation which, if improperly used, can be dangerous to all living things and their offsprings.

The X-ray machine depends upon electrical energy to produce the useful yet potentially hazardous X-ray beams. Safety measures are primarily designed to assure the best results for the least



A fish is given experimental irradiation in a research laboratory.

possible patient exposure. Basic to every X-ray exposure is the professional judgement of the doctor that the benefits derived outweigh the slight remaining potential hazards.

When the X-ray machine is turned off, no radiation remains lingering in the lead-lined walls to silently radiate the unsuspecting person. Unlike machine produced X ray, the radiation emitted from radioactive substances (radionuclides) is not controlled with a switch. Once a material becomes radioactive, the energy of the radiation cannot be externally varied, but it loses its radioactive energy according to a fixed pattern of energy type, energy strength, and rate of energy loss. The rate of energy loss is called "half-life," and is defined as the time it takes for half the number of atoms present to decay. This half-life is characteristic for each radioactive substance and may vary from a fraction of a second to thousands of years. Something which has the potential for emitting hazardous radiation for thousands of years presents a unique problem for control and disposal.

Radioactive substances which have been inadvertently lost or discarded present a danger to everyone around them. Hospitals have spent thousands of dollars in time and materials to rebuild walls and pipes which had to be torn out to reclaim a "hot" substance. Occasionally a city dump or incinerator must be searched piece by piece with sensitive instruments for lost radioactive material. When burned, this material is bound to gaseous or particulate substances and is more difficult to control than the original material.

Consequently, the problems facing the State Board of Health physicists regarding the safe use of radioactive material differs from the safety recommendations for X-ray machines in many ways:

* contamination—rigid control is necessary and periodic tests made to prevent escape of radioactive contamination into the environment;

* records — disposition of each radioactive substance received must be noted—as required by law; such records are scrutinized by public health physicists to make sure that unsafe amounts are not allowed to escape into the environment;

* laboratory construction — non-porous, washable material is used in areas where radionuclides are used;

* work benches—stainless steel or other non-porous surfaces are necessary;

* sinks—non-porous, smooth surfaces are used;

* shields — lead bricks are most commonly used in shielding staff and instruments;

* hoods—(some with exhaust fans) used to prevent contamination of the air and confine radioactivity to a limited area; and,

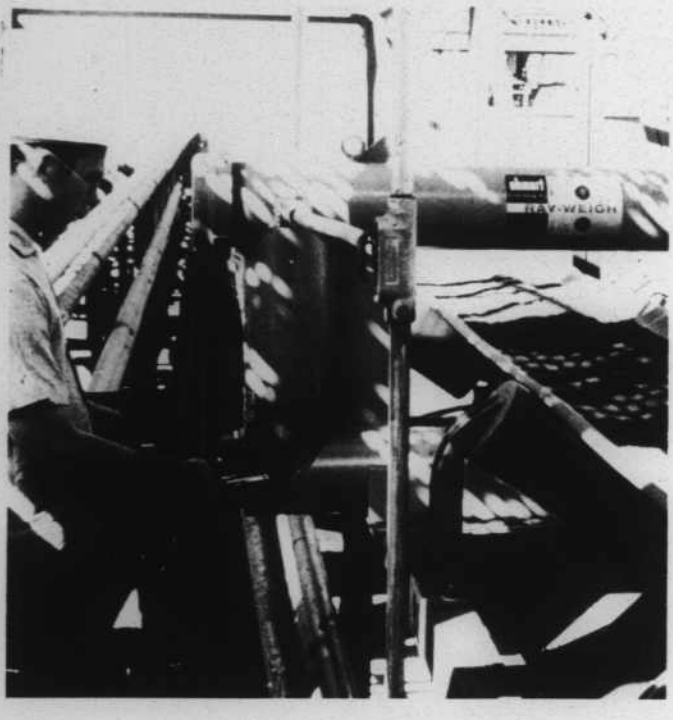
* instruments—monitoring instruments used by nuclear medicine laboratories to protect patients and personnel from radioactivity.

In addition, there are many other safety precautions, such as proper labeling of radionuclides, posting of warning signs, and periodic radiation surveys of therapy equipment.

Radiation Surveillance

An essential element of a public health program to protect people against the hazards of radiation is the measuring of radioactivity levels throughout the state. Potentially, these levels can be influenced by radioactivity from such sources as nuclear reactor operations, radionuclides used in medicine, industry and research; activities associated with space exploration; and radioactive fallout from nuclear detonation.

Fallout remains an important factor in radiological health surveillance, though much of the public concern which prevailed prior to the test ban treaty is absent. Radioactive debris, thrust into the atmosphere during nuclear testing, falls back to earth over a period of many years, contaminating man's environment. Atmospheric nuclear testing being conducted by nations that have not signed the test ban treaty is also a danger. To safeguard the population, surveillance of these tests and long-term fallout must be maintained.



A nuclear gauge (at the right) is used by the phosphate industry to weigh raw material on a moving belt.

The Florida Radiation Surveillance Network, established in April, 1962, is a continuing operation of the State Board of Health's Division of Radiological Health and several County Health Departments. The number of stations and the frequency with which the samples are collected vary from time to time, according to the need for radiological surveillance.

The primary purpose of the network is to obtain information about widespread radioactivity and serve as an early warning system to alert state and county health agencies to significant increases in atmospheric concentrations and deposition of radioactive materials. From this information a watch over the exposure to the population is maintained.

Milk Surveillance

Milk is the single food item most indicative of the population intake of radionuclides from the environment. It is a good indicator of the presence of fresh fission products in the environment. Although milk is only one of the many sources of dietary intake of radionuclides, it is consumed by a large portion of the population. Several of the biologically significant radionuclides, when present in the environment, will appear in milk.

The milk surveillance program samples milk from randomly selected farms in the West, North, Northeast, Central, Tampa Bay and Southeast regions of the state. These samples are shipped to the State Board of Health's Radiological Laboratory in Orlando. The milk is analyzed by radiochemical and gamma scintillation spectrographic techniques for Iodine 131, Cesium 137, Strontium 89 and 90, Barium 140 and Potassium. A station of the U. S. Public Health Service nationwide network is located at Tampa.

Air Surveillance

Measurements of gross beta radioactivity in surface air provide one of the earliest and most sensitive indications of increases of activity in the environment. Air surveillance thus provides an early alert to the eventual appearance of fresh fission products in food.



Milk samples from throughout Florida are received in the State Board of Health's radiological laboratory and tested for radionuclides.

The network stations are located in Pensacola, Tallahassee, Titusville, Rockledge, Melbourne, Orlando and St. Petersburg. The U. S. Public Health Service's nationwide network maintains stations in Jacksonville and Miami.

Air samplers, operating on a "one hour on—one hour off" cycle, collects the air on a carbon-loaded cellulose dust filter. These are changed every 48 hours except on weekends and holidays. By comparing the radioactivity-laden dust collected on the filters with known radioactive sources, the operator can estimate the concentration of the radioactivity in the air. Should the level be abnormally high, the Division of Radiological Health is notified immediately. All filters are mailed to the radiological laboratory for more refined measurements.

Precipitation

Rain is nature's atmospheric cleansing agent. Some radioactivity reaches the earth from the atmosphere by "dry deposition" or dry fallout, but most of the radioactivity in the atmosphere reaches the earth by being washed down by rain. Precipitation

network stations are located in Pensacola, Orlando and St. Petersburg.

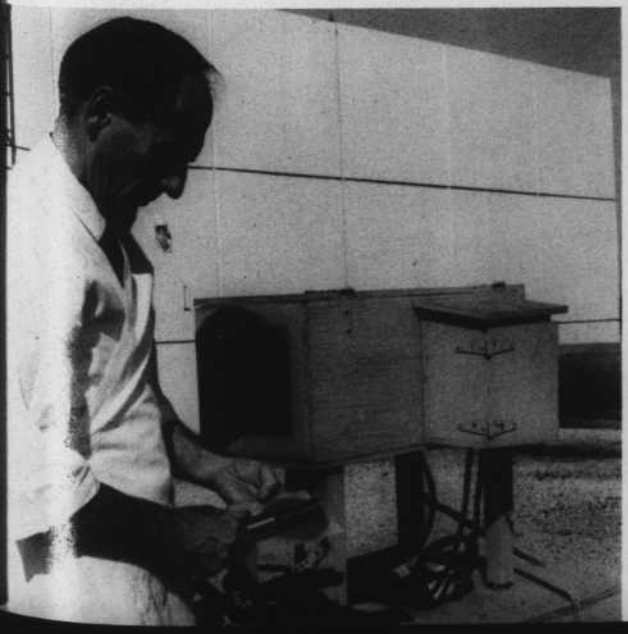
Rain is collected in a five-gallon container with a 4.3 square foot surface area funnel. Samples are collected when there is rain or once every 24 hours during a rainy period. The samples are shipped to the radiological laboratory where gross beta and gross alpha concentrations are measured.

What Does the Future Hold?

The friendly use of the atom will give future Floridians a more plentiful life in a cleaner environment.

Within a couple of years, atomic energy will start lighting our dwellings and places of business. It will replace our dwindling supply of dirty fossil fuel—gas, coal and oil—with clean atomic power in unlimited amounts. This will cut down on air pollution. Nuclear power is already driving aircraft carriers and merchant ships and will soon be powering land vehicles.

The pasteurization and preservation of food by exposure to controlled radiation is past the research stage. Such important Florida crops as oranges, potatoes and strawberries will be sent to market in open containers after being subjected to radiation. This will kill a certain portion of bacteria which spoil food. Such treated



A filter from one of the state's air sampling stations is tested for radioactive fallout.



A workman in a paper mill uses a nuclear gauge to measure the thickness of paper.

foods will last for several weeks without refrigeration. Food production will be raised to a higher level than can be imagined through the control of insects and plant diseases by atomic energy.

Every day new isotopes are being developed for early diagnosis and effective medical treatment.

Although the use of atomic energy in industry is with us now, it will continue to be expanded in the future. Radioactive materials will be used for:

* independent power supplies for space vehicles and medical devices;

* fire detecting devices;

* plastic baby bottles which can be sterilized;

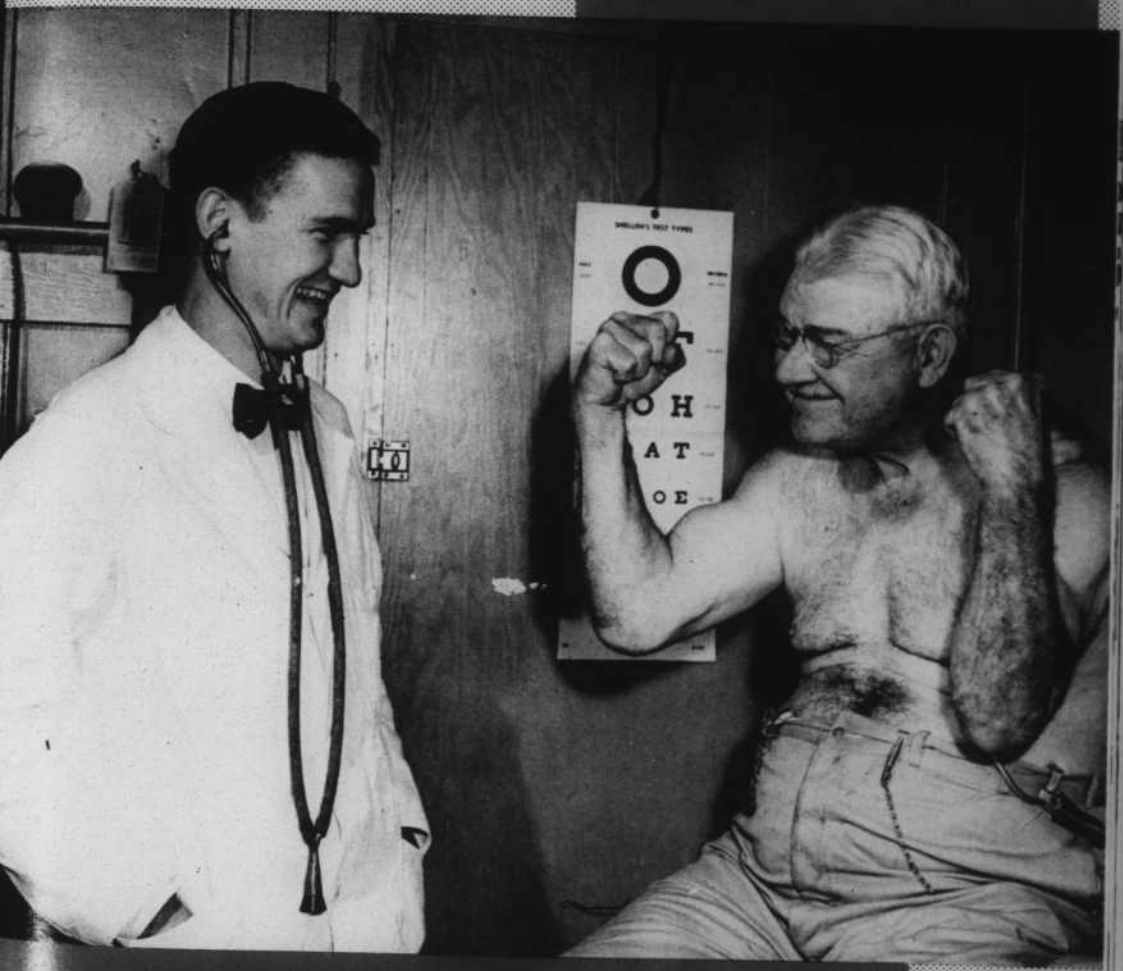
* wood made impervious to worms and insect;

* safer ships and buildings through the inspection of welds and construction; and,

* early weather detection and control.

The successful exploitation of the atom has begun. It can be a real friend to Mankind. It is up to him to use it in peace.

FLORIDA HEALTH NOTES



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Health In The Later Years

(Cover photo) "I'm an example of good health," this elderly citizen seems to tell his physician. However, many persons over 65 years of age have one or more chronic illnesses.





The County Health Department supplies many services to the elderly. (Top) A public health nurse checks a patient's blood pressure during a home visit and (center) discusses the family's health problems with the patient and her husband. (Bottom) Another nurse checks an elderly person's eyes for glaucoma during a screening clinic.



HEALTH
In The Later Years

Aging does not begin, nor does life end, at 65 years of age. Although this is commonly the age one retires from his work and starts receiving Social Security benefits, the definition of old and aging is dependent on one's point of view. To the small child, the adolescent of 15 is old; to the youth of 25 years, the man of 45 is old. There are also individual differences in the rate of growing older. One person may be physically, mentally and emotionally the same at 50 years as another person at 60.

Many factors which a person can easily decide for himself may contribute to a long life. But one does not struggle alone for good health. The State Board of Health and the elderly are in partnership for better health in the later years. Public, private and voluntary health agencies have assumed responsibility for the care of the well and sick of the rapidly growing numbers of elderly people of the Sunshine State.

Each day an average of over 3700 Americans celebrate their 65th birthday. The population of Florida 65 years of age and over is increasing about eight times as rapidly as the average population increase for the United States. By 1985 Florida may have 1,381,000 persons in this age group.

The national increase in the older segment of the population is due to a number of reasons. The unusual increase in this state is because the elderly select Florida as a retirement area due to its mild climate, good public and private health facilities, cultural resources, social organizations, recreational opportunities, vocational possibilities and a better way of living.

This issue of **Florida Health Notes** is concerned with gerontology and geriatrics. Gerontology is the study of the phenomenon of aging. Geriatrics refers to the branch of medicine devoted to the treatment of diseases of the aged.

The Medical Task

Public health and the medical profession have become more aware of the problems of chronic illness because there is a growing number of older people, and they suffer from more chronic conditions than younger people. These illnesses often begin in earlier years, but the heaviest toll in sickness and disability comes later in life.

The relative control of communicable and infectious diseases has changed the role of public health with respect to chronic illness. The growing problems of chronic diseases are now more evident, Now it is generally recognized that County Health Departments

The National Health Survey indicated that 77 per cent of the non-institutional population 65 years of age and older have one or more chronic illnesses.

and other community health agencies must assume an increased responsibility for supporting and coordinating programs to prevent long term illness, to find those persons who are in the early stages of disease, and to assist those who are already affected.

Two factors are most important contributors to extended, healthy, happy living:

*an understanding of one's self, physically, socially and emotionally. If an insight is gained into the significance of various factors, such as good diet or control of tension, your health may be influenced.

*good medical care, both early and later in life, and a positive public health program which includes control over preventable

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Hobbies, such as needlepoint, provide many interests in life. One senior citizens' organization operates a store where many such items are sold. Thus the members earn a little extra money.

diseases in the community and elimination of factors in the environment which are detrimental to health. County and state public health workers, with private physicians, cooperate to provide broad preventive, diagnostic and treatment programs to assist Floridians to better health.

The Question of Retirement

Many persons interested in older people seriously question the wisdom of the practice of compulsory vocational retirement at 65. Frequently both men and women have several years of useful productivity remaining when they are forced to retire at this age. Quite often they begin another job or another career. A physician, after conducting a study of men over 95 years of age, said, "Not a single retired-to-nothing man was found."

Jobs not only provide obvious economic advantages. They fill equally important moral and spiritual needs. These include a sense of worth, social participation, a certain amount of pride, service to others and a framework for planning the day's activities. When you are "retired vocationally" these basic needs must find satisfaction. Hobbies, such as raising guppies, collecting stamps, or



Many senior citizens' clubs schedule dances and other activities to fill lonely hours for their members and provide a social life.

growing lilies can provide new living excitment. Participation in organizations and institutions, such as a Lion's Club, a book club or a Golden Age organization, may put one in contact with socially and intellectually attractive people. Churches, hospitals and boy's clubs provide opportunities for meaningful service activities. A person cannot afford to retire; he just has more time and freedom to choose his activities. Staying busy with activities from baby-sitting to shuffleboard helps one to stay healthy and happy. The most meaningful and satisfying activity is service to others.

The life pattern of a person is a most important factor in the maintenance of health. These habits, ways of reacting, and patterns of behavior develop through childhood and early youth. They become more or less crystallized in the early thirties and persist throughout life. This emphasizes the importance of developing healthy and adequate patterns of living by early adulthood.

Actually, few persons make any marked changes in their habits and reactions after the early thirties. Nevertheless, changes can take place and properly should. A person's health and happiness depend to a considerable degree on his ability to adjust his life patterns to his changing environment.

When a good pattern of living and reacting has been established early in life, one is more likely to age gradually and smoothly with less distress and fewer anxieties and emotional upsets. He may have to accept the fact that what was very important to him early in life is not necessarily important now. A philosophy of accepting later maturity with adventuresome spirit and the satisfaction of discovering new enjoyments make a positive contribution to good health. Developing this attitude is essential to emotional and physical well-being.

A Variety of Housing

A person of retirement years has a wide choice to satisfy his housing requirements:

He may rent or purchase an individual residence at a unique location of his own choosing, or he may prefer a retirement center with all its practical inducements (dining room, infirmary, social club). Or, on the other hand, he may purchase an apartment in a condominium and have all maintenance provided.

Then too, he may stay in a hotel, a boarding or rooming house, or pay a fee at a retirement hotel which undertakes to provide his physical and nutritional needs for life.

According to a survey made in Pinellas County in 1960, 68 per cent of individuals 65 years or older live with their spouses; 20 per cent live alone; and 10 per cent live with their relatives. There is little to indicate that these figures have changed at the present time.

He may live in the cloistered environment of a retirement center, in a foster home as an independent family member, or in the home of a relative with the advantages and occasional restrictions of family living.

He may have his domicile in a rest home or in a nursing home if the advantages of immediate medical care are important considerations. These two types of living accommodations must meet and maintain certain service, sanitary and building standards and have to be licensed by the State Board of Health.

For the most part nursing homes are specially constructed buildings which provide professional medical and nursing care for persons who are ill but do not need hospital service. There are 277 such homes licensed in the state taking care of 18,339 persons.

Homes for the aged provide for elderly people who do not need nursing care but who do need guidance in regard to their diets, sleeping habits, and general health habits. In 1967, 67 such homes were licensed and cared for 4334 individuals.

Accidents in the Home

Older persons are particularly likely to have accidents because of diminished physical control, poor vision and other illnesses peculiar to their age group. Last year accidents were the seventh ranking cause of deaths among Florida residents aged 65 and older. They ranked second as the reason for people being in nursing homes. Falls accounted for 93 per cent of the accidents involving the elderly. This is because they are often unsteady on their feet and their bones are weaker. With age more care has to be taken since balance and reaction time may be affected. A more self-protective attitude should be adopted.

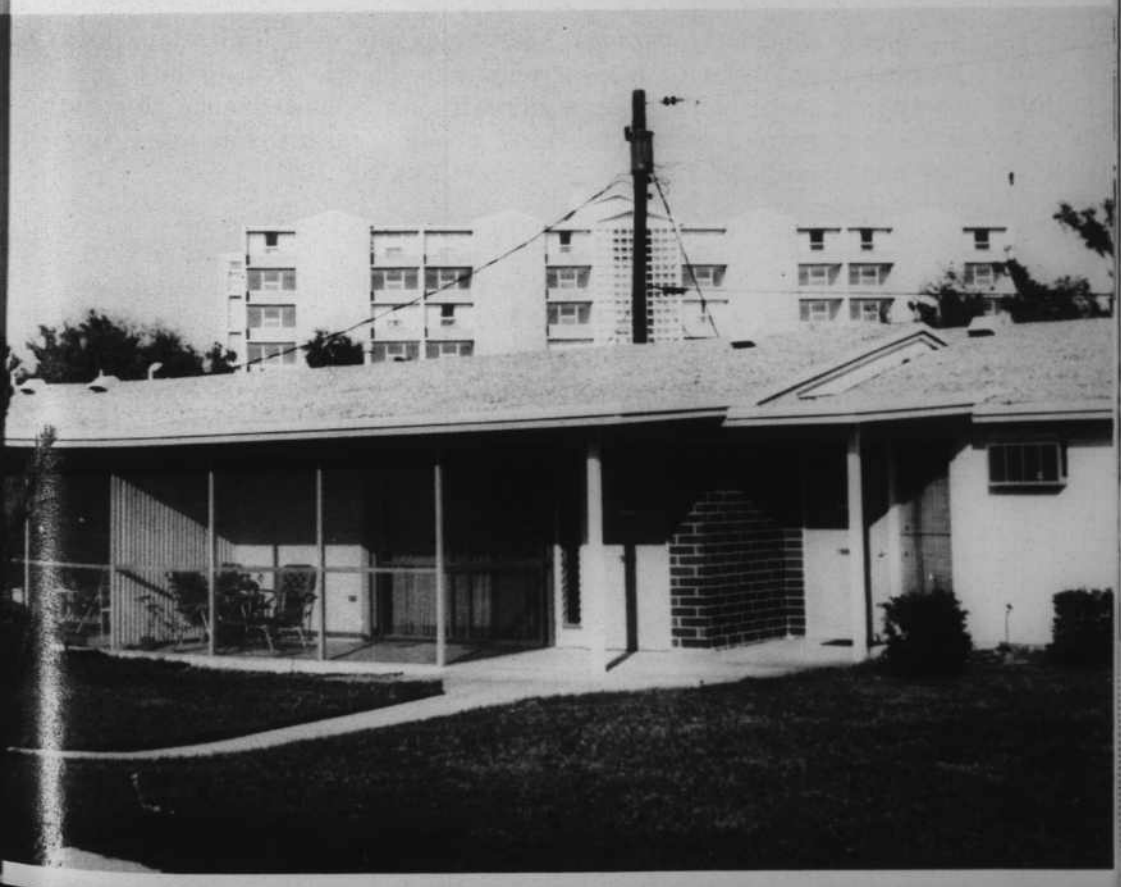
The State Board of Health has a broad program of education to inform the public of the dangers of accidents. Part of this program is directed to nursing homes in an attempt to modify the environment for the prevention of accidents. Elimination of steps

thresholds, slippery floors, movable rugs and other potential hazards contribute to safer surroundings.

It helps for the older person to wear non-skid shoes. If there is any physical disability, training should be given on how to move about, to get in and out of a car or the bath tub, and to use the toilet. Even the simple procedures of living may need a certain amount of supervision and instruction. Many, perhaps most, of these accidents can be prevented by attention to these details.

Failing eyesight may turn a private home into an obstacle course for older people. Loose stair banisters, insecure stair treads, and poor lighting are especially dangerous. Throw rugs

Many senior citizens live in retirement communities which have cottages and high-rise apartments (background). Here they find central dining rooms, infirmaries and social clubs which they may use.





An elderly person may find a railing on a bathtub helpful in preventing falls.

should be eliminated. A gleaming waxed floor may feel like a skating rink and children's toys left about may mean a nasty spill for the children's grandmother. A rubber mat in the bathtub and a sturdy handle fixed in the wall near the tub also prevents falls.

When an elderly person understands his own limitations and becomes familiar with his surroundings, he has less anxiety and, therefore, more confidence in himself. As a consequence this allows him more freedom to think about pleasant and more important aspects of life.

Medical Care at Home

In Florida certain medical services may be provided in the home by the nursing staff of the County Health Department. In other communities this may be by a Visiting Nurse Association. These services are usually for the chronically ill, the convalescent or the handicapped person. Another service is that of homemaker or home health aide under the supervision of the nursing service.

Home care is less expensive than hospitalization. As a rule patients also appear to be happier and get well faster. The separation from the hospital atmosphere as well as closer support of family and friends, seems to quicken recovery and rehabilitation

Thus, a **nurse** may come to the home to administer insulin, give an enema or provide other professional service. A **home health aide** usually renders personal care to a patient such as helping him with eating or taking a bath. **Physical therapists** direct and aid patients in active and passive exercises and in muscle re-education. **Occupational therapists** guide patients in therapeutically creative work and activities designed to improve both physical and emotional conditions. Some of these services for the elderly are provided for specified periods under Medicare.

Healthy Eating

Many factors that a person can control for himself contribute to a long and happier life. Good nutrition is one of these and is essential for health and vigor in later years. A nutritious diet should include lean meat, fish, poultry; fruits and vegetables, especially citrus fruits, and dark green and deep yellow vegetables; and whole grain or enriched breads and cereals. These foods provide the body with energy and essential protein, minerals, vitamins and bulk. Water, skim milk or other fluids are also important.

The meaning of food differs with people and varies with their backgrounds. To some people, food is symbolic of love. As with other ages, old people may eat too much when they feel unloved or unappreciated, or when they are under tension or strain. They make a fuss about food as a way to get attention, to get their way, or to strike back at someone they feel offended them. Meals may remind people of either past or present, pleasant or unpleasant experiences. Consequently, it is essential that meals look, smell and taste good. Care should be taken to assure the most pleasant surroundings.

The State Board of Health provides public health nutrition consultants for those involved in the care of elderly people. An



important aspect of this function is an education and supervision program for nursing homes and homes for the aged. These consultants also plan and conduct training classes for nurses, dietitians, and home health aides. In addition they cooperate with local lay diabetic and heart organizations and help with programs on diet and nutrition for senior citizen organizations.

Chronic Disease Control

If life expectancy is to be significantly increased for the individual, success must be achieved in the battle against one or more of the chronic diseases such as cancer or heart trouble. At the state level the major public health responsibilities for the aged in Florida rest with the Bureau of Adult Health and Chronic Diseases of the State Board of Health. Services for the elderly are provided as a part of the general public health program which is available to the population at large through the County Health Departments.

Diseases of the Heart . . .

. . . are by far the leading cause of death among the aged in Florida and nationally. The death rate from heart disease has remained relatively constant for the past 20 years and it is unlikely that there will be any change in the near future. The importance



Bingo is just one of the activities senior citizens' clubs have. (Left) Several hundred members of this St. Petersburg club spent several hours a week at the pastime. Some players (right) are engrossed in playing a number of cards at one time.

of these conditions for the aged is evident when comparison between age groups is made. In Florida during 1966, the death rate from heart disease for persons 65 to 74 years of age was one hundredfold that of those 25 to 34.

Some major factors considered as causes of heart disease are high cholesterol, overweight, high blood pressure, smoking, and certain infectious diseases. Personality, heredity and way of life are probably contributing causes.

There is increasing evidence that certain life long nutritional habits, good emotional health, and regular exercise help to prevent heart disease. Periodic medical examinations are important for the early detection and control of these factors and thus make possible action on the part of the individual which will prevent or delay the onset of heart disease.

Let's discuss Mr. and Mrs. Jones who recently moved into a retirement center in a Florida city. He has heart trouble.

For Mr. Jones, the heart attack had social as well as medical complications. His whole family had to make adjustments. His self-esteem took a terrible beating because he had been an important and active individual in his social group. Their recreational activities and social life, particularly around home, underwent marked adjustment.

This period lasted for some time and eventually it became evident that Mrs. Jones would have to assume responsibility for family leadership. With her guidance the Jones family accepted the change in family life habits and soon developed different but meaningful interests.

Diabetes . . .

. . . ranked as the 11th cause of death in 1967 among Florida residents. Because it is a contributing factor in other causes of death, its potential as a killer may never be known.

Diabetes is often accompanied by many complications. Since it becomes common with increasing age it presents an extensive problem in a retirement state such as Florida. It ranks third as a cause of blindness after cataracts and glaucoma. There is possibly a strong relationship between diabetes and heart trouble.



There are many senior citizens' organizations in Florida. This one in St. Petersburg operates a drugstore for its members.

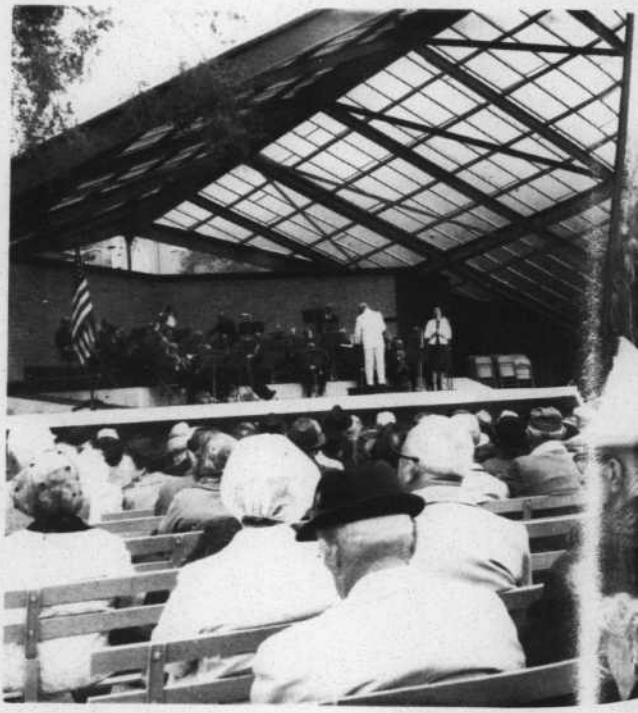
Most cases of diabetes can be controlled by early and proper treatment. Of equal importance is the fact that it can be detected by a simple and reliable test. People over 40 years of age, all relatives of known diabetics, and parents of large babies should have a blood sugar test made annually because of the frequency of this disease among these groups. In the opinion of most medical doctors, persons with diabetes who are treated and controlled have fewer complications than individuals who are not treated.

Part of the adjustment problem was that in addition to Mr. Jones' heart trouble, Mrs. Jones had diabetes. Her diet had to be changed to provide foods low in sugar, starch and fat content. The need for this special diet by one member of the family had to be accepted. Social and recreational activities had to be adjusted so that the use of energy by Mrs. Jones matched her caloric intake. The idea of how important it was for Mrs. Jones to control her eating habits and take her prescribed medicine was realized gradually by the family.

Public health in Florida contributes in three major ways to diabetes control; insulin distribution, casefinding, and education. Medically indigent patients can receive all or part of their insulin supply through a state and county program of distribution. The finding of new cases is primarily a function of private physicians supported by County Health Departments and the State Board of Health which provides consultation for program planning and limited financial aid for conducting diabetic surveys. The assistance of community voluntary health agencies and other lay organizations is essential to the success of the program.

Strokes . . .

. . . are caused by the blockage of a blood vessel in or to the brain. They are more common in older people and frequently as-



Some Florida cities provide free entertainment for its citizens. This concert in St. Petersburg is attended by many tourists and elderly people.

sociated with heart disease, high blood pressure and hardening of the arteries. As a rule they cause paralysis of an arm, leg and often affect the speech. Although strokes are serious many victims survive.

Let's take the case of Mr. Smith who is in a nursing home. First he was sent to a hospital where proper rehabilitation measures were begun within 24 hours after his stroke. He made good progress. But, because he still needed regular physical therapy treatment and considerable assistance with personal care, he was transferred to a nursing home. After a short time he was allowed to go home because he had recovered to the point of self-care. It would be a different kind of life for Mr. Smith but, because he had proper and prompt treatment he was one of the four out of five survivors who can regain the ability to handle the activities of everyday living.

The State Board of Health has a rehabilitation nurse consultant who promotes classes and training programs for those who work with the aged. She also coordinates with the State Department of Welfare an annual conference and working classes devoted to the problems of stroke victims.

County Health Departments cooperate with counselors from the State Department of Vocational Rehabilitation by providing space to work with patients and nursing service. They also arrange for medical and physical therapy consultants. Public health nurses also assist patients in their homes to obtain services for achieving maximum health.

Cancer . . .

. . . is a condition that affects many people but is more common in the aged. It is the second leading cause of death in Florida and has been steadily increasing for the past 25 years, reaching an all time high in 1967.

The major efforts of the State Board of Health Cancer Control Program are directed toward the support of 26 tumor clinics located near centers of population throughout the state. Public health provides public health nurses, secretaries and clerks for these clinics but their operation is made possible by the cooperation of community hospitals and the donation of services by practicing physicians.

Public health nurses offer the cancer patient services both in and out of the clinics. Most of their work is home visits to patients. Much time is spent finding patients lost to follow-up; some are very difficult to find, while for various reasons, others are reticent about returning to the clinic for treatment.

Glaucoma . . .

. . . is a serious disease of the eye and is the second cause of blindness. A higher than normal pressure occurs within the eyeball and reduces the blood supply to the retina. If not detected, permanent damage is done to the retina resulting in defective vision or blindness.

Mrs. Sweet, a 66-year old woman, decided to go with her neighbor to a glaucoma screening clinic, sponsored by the County Health Department, practicing eye doctors and a lay organization interested in sight conservation. It was at the local church on Tuesday night. The test was quick and painless—but the results were upsetting. Mrs. Sweet had an above-normal pressure in her right eye and was referred to her eye doctor (ophthalmologist) for further testing and diagnosis. It turned out to be glaucoma with loss of about half her vision in that eye. However, on the bright side, she now realized her good fortune in discovering this condition when she did and was grateful to know that simple medication would probably prevent the progress of this condition.

Chronic glaucoma develops slowly and insidiously. It become more common after a person is 40 years of age. The State Board



A public health nurse checks the pulse of a patient during a home visit. A home health aide, one of the services provided by many County Health Departments, gives the patient personal care.

of Health has a screening program which is carried on in cooperation with practicing eye doctors, County Health Departments and community organizations. The objectives are to find those with increased pressure in their eyeball, refer them to an eye doctor for diagnosis and necessary treatment, and to educate the public to this dangerous threat to eyesight.

The Elderly and the Family

Many persons interested in the aging problem feel that an individual should begin preparing for old age about the time adolescence begins. Learning about retirement and developing an understanding of the needs of the aged have desirable values. Either voluntary or involuntary retirement may have long-term, unhappy consequences unless carefully planned.

Mr. and Mrs. Brown are lonely. They have not accepted Mr. Brown's compulsory retirement. In spite of this they recently moved from Chicago to St. Petersburg. Small financial reverses are difficult to gain back on pension income. The effort and energy required to make new friends was not anticipated. And surely their



daughter and son-in-law who live in Tampa could spare more time from their growing family to visit them.

Public health workers repeatedly emphasize the need for developing insight into the process of aging and the desirability of early planning to cope with the retirement period. Children should be assisted to develop worthwhile relationships with elderly persons in their community as a mutually rewarding experience.

A pilot program by the State Board of Health was begun in 1965 in one of the county school systems to teach high school students about aging. Over 2000 students have studied such topics as Social Security, special housing needs of older people, mental health, chronic diseases, dental hygiene, nutrition, exercise and recreation and pension plans.



Group singing and musicales are favorite activities of many elderly people. (Left) Members of a club join in singing such old songs as "Down by the Old Mill Stream" while retired musicians (right) accompany them.

Education for the Later Years

The importance of education for older persons is twofold. In the first instance, education should be aimed at preparation of the individual for his later years—what he can expect in terms of housing, health and social activities. And the second aspect of education, and equally important, is education as an avocation after retirement. This may open a whole new vista of opportunities and in fact has often been the beginning of a new career. Thus it is a means toward providing satisfactions to the retired person at a time when his feeling of self-worth is at a low ebb.

Through the State Board of Health interested groups in Florida may obtain brochures and films that provide information on retirement, financial planning, housing, and the availability of certain health services and facilities. Pamphlets outline in some detail sub-

jects such as screening programs for diabetes and how to plan a budget on limited income. Workshops and classes are promoted for the elderly and persons who work with them. Through interagency conferences and the efforts of individuals, the State Board of Health cooperates with the Florida Commission on Aging, an official state agency; the Florida Council on Aging, a voluntary organization; and other official and voluntary agencies with interest and responsibility for our older population.

The Aged as an Individual

It has often been said that everyone is unique as an individual. This starts at birth with a distinct set of chromosomes and genes that will inevitably express the characteristics of the individual thoroughout life. The interaction of social experiences and physical surroundings with the person's hereditary constitution is a continuous process that creates the personality. This process has its most marked effect during the early years; changes in later years are slower and less obvious. Nevertheless the aged person retains his own uniqueness as an individual.

The younger person who works with older persons must keep in mind that with the exception of certain physical and social considerations, that they behave very much the same as younger people. They have the same need for love and approval, require the satisfaction of doing meaningful things, and should have a responsible place in the family or social group. These are the things that the young in age and experience must recognize in dealing with the aged. By the same token, it is necessary for the elderly to take into account changing attitudes of young people, particularly those which affect their relationships.

The State Board of Health and all the County Health Departments are in partnership with the elderly for better health. Happiness may be hard to gain without a reasonable level of physical, mental and spiritual well-being. There are many other official and voluntary health and health-related agencies and organizations that have similar aims. Your Health Department is willing and able to offer help and guidance for better health.

FLORIDA HEALTH NOTES



VOLUME 60—NO. 6

JUNE 1968

1967 ON REVIEW

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(Cover photo) Florida Health Notes **reviews the 78th year of the Florida State Board of Health — a year of accomplishments and disappointments.**



So, strike up the band, unfurl the flags, and read about some of the major activities of YOUR health departments.

For many years **Florida Health Notes** has presented in its June issues a condensation of information from the bulky **Annual Report** published each year by the State Board of Health. But this book is full of details that may not interest you or you will not have time to read. And so, through the years the activities of the official health agency of Florida and its partners, the County Health Departments, have been chronicled in various ways which we hope have been interesting.

Now it is time for a review of the major activities of our 78th year. Everyone loves a parade — so strike up the bands, unfurl the flag, this is



About 100 years ago, Benjamin Disraeli, the English statesman, said, "The health of the people is really the foundation upon which all their happiness and all their powers as a State depends".

As you watch the parade pass, keep in mind that your health is important to the community; and it is the health of the community, and all of Florida, with which the State Board of Health is concerned. Most activities of this agency are carried out by the County Health Departments. A few programs are conducted directly from the central office of the State Board of Health. Some of the activities are:

* strides in immunization against measles,
* advances in family planning,
* expansion of the nutrition program,
* certification of 63 home health agencies,
* licensing of hospitals and nursing homes,
* finding elderly people who suffer from chronic diseases,
* expanding of laboratory services,
* supervision of shellfish production, and
* research into mosquito control and eradication.



The care of mothers and children has been the backbone of broad public health programs in Florida for over 50 years.

In 1967, the State Board of Health assisted in the establishing of new family planning and evening clinics in many County Health Departments by paying private physicians and nurses to hold clinics on a fee-per-clinic basis. The number of indigent women who were thus served increased to more than 30,000.

The County Health Departments provided information on child spacing to those women who asked for it and provided drugs, intrauterine devices, and the necessary materials. Additional clinics made it possible for the counties to serve more of the 206,799 indigent women of child-bearing age who are eligible for family planning services.

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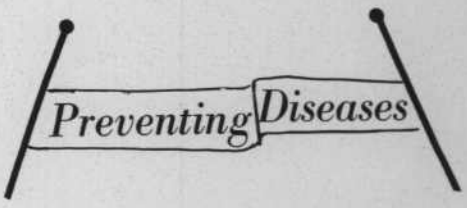
VOLUME 60—NO. 6 **JUNE 1968**

Efforts were made by the County Health Departments and State Board of Health to substitute children's clinics for the customary well-baby clinics so that children from birth to 16 could be seen. Special consideration was given to the preschool children.

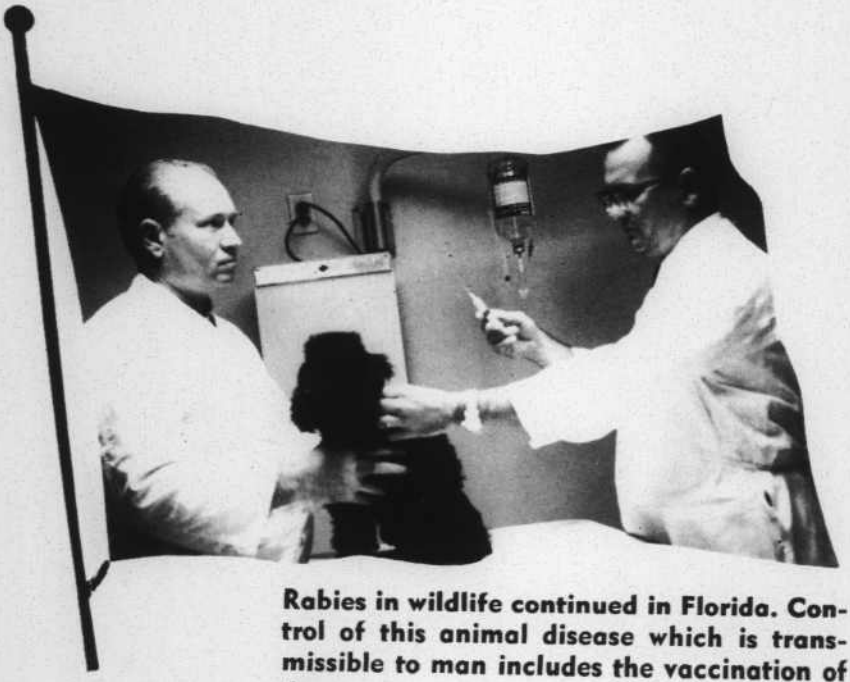
The expanded nutrition program had 26 nutritionists assisting public health nurses and other professionals to improve the diets of migrants, Seminole and Miccosukee Indians, and other groups. Priorities were given to those persons who had special nutritional needs. Because of the emphasis on Maternal and Infant Care Projects and home health services, nutritionists taught patients and families, individually and in groups, either in clinics or during home visits, to improve their diets.

Public health dentists gave dental care to indigent children and mothers in many counties. A mobile dental clinic was in operation in Palm Beach County; a new dental clinic was started in Collier County; and a dental clinic was equipped in Columbia County.

Dental preceptees, recent dental graduates, practiced in 12 counties in public health clinics under the watchful eyes of local dental committees, county health officers, and advisors from the State Board of Health.



The outstanding activity in preventing communicable diseases was the mass measles campaigns which immunized thousands of children against the disease. More than 100,000 doses of measles vaccine were given out through County Health Departments. At least 50 percent of these were given in mass single-day campaigns. Measles cases were down to 1806 in 1967, as compared with 3970 in 1966.



Rabies in wildlife continued in Florida. Control of this animal disease which is transmissible to man includes the vaccination of dogs.

Tetanus cases were up to 22 cases with more than 50 per cent of these in adults. This is a disease that is easily controlled and routine immunization of all persons against this disease cannot be stressed too highly.

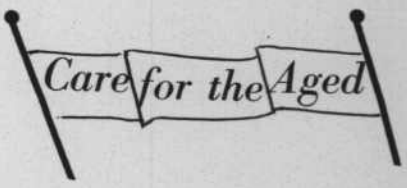
Epidemiologists and bacteriologists of the State Board of Health continue to battle shigella and salmonellosis. There were 1121 cases of salmonellosis during 1967, with one outbreak in a Hillsborough County junior high school involving 300 students.

The number of influenza cases were down, 6073 in 1967, as compared with 9564 in 1966. But at the end of 1967, there was an outbreak of Asian II virus in many areas of the state.

Venereal diseases continued to be a perplexing problem. There was a total of 1933 cases of primary and secondary syphilis reported, an increase of 2.27 per cent over the 1890 cases of 1966. Most of these cases were reported in teenagers and young adults. Private physicians reported 32 per cent of the total number of cases.

Public and voluntary health agencies continued the search for Floridians with tuberculosis. A total of 1601 cases of tuberculosis was reported, an increase of 28 per cent over 1966. Of these, 185 were in children under 15 years of age. This is a tremendous increase over the 84 cases in this age group reported 10 years ago. A total of 148,532 tuberculin skin tests was performed. Some 769,300 70mm x-ray examinations were made with 6433 persons reported suspicious for tuberculosis and examined further.

There was an indication that rabies in raccoons was gaining momentum in Central Florida and spreading northward. Thirteen such animals were found in Manatee County. There was an increase in the number of rabid foxes and in Jackson County early in the year there appeared to be the start of an epizootic (epidemic in animals). Approximately 10 per cent of the bats submitted to the Division of Veterinary Public Health were found to be positive for rabies. A total of 82 cases of rabid animals was reported, as compared with 78 cases in 1966.



There are presently 750,000 persons over 65 years of age in Florida. Many of them are afflicted with the usual infirmities of the aged. Due to the popularity of Florida as a retirement state, this number is expected to increase to one million by 1970.

These people live on fixed income and are caught in the squeeze of increased cost of living, high taxes, and the disabilities resulting from chronic diseases. They find themselves with depleted resources and dependent upon the community for assistance.

Heart diseases continued as the leading cause of death. Approximately 23,250 persons died of various heart and cardiovascular diseases during 1967. This is a death rate of 382.4 per 100,000

persons. Contributing factors may be high blood cholesterol, high blood pressure, diabetes, obesity, physical inactivity, and cigarette smoking.

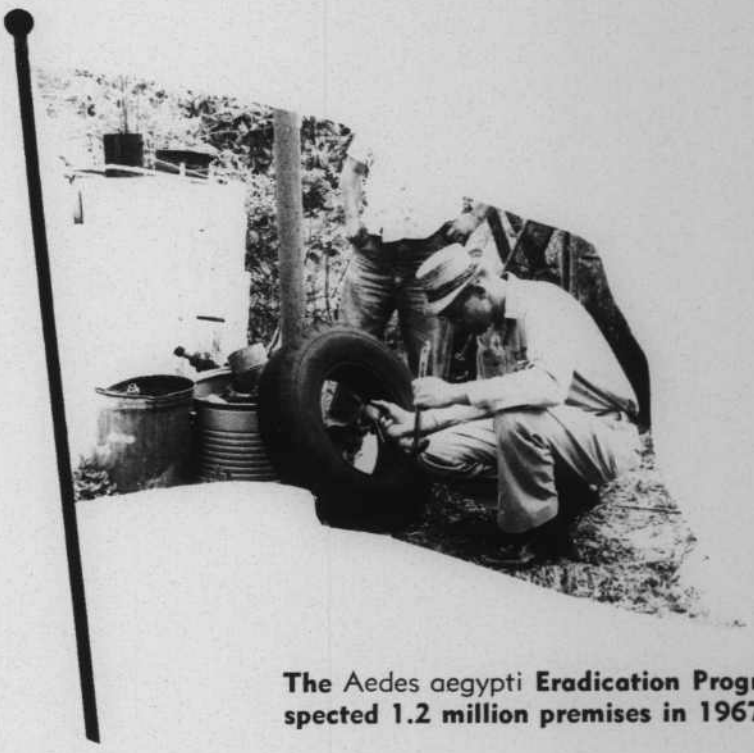
It is estimated that 11,172 persons died of cancer in 1967. Provisional death rate for Florida is 183.7 per 100,000 persons, as compared with 159.1 for the United States. There were 25 tumor clinics in the state which had 33,268 patient visits. Forty-nine counties participated in a cervical cytology program whch screened 33,382 women. Those with suspicious and positive Paps smears were referred to tumor clinics for diagnosis, treatment and follow-up.

The State Board of Health estimated that 975 Floridians died of diabetes in 1967. A total of 28,232 persons was screened for diabetes in 53 counties, and 1598 persons were referred to their family physicians for diagnosis and treatment. Approximately 3757 medically indigent patients received insulin through the County Health Departments.

The 1967 Legislature passed the Fitting and Selling of Hearing Aids Act and gave the State Board of Health the responsibility of putting the law into effect. A total of 350 individuals engaged in fitting and selling hearing aids in Florida will be licensed under the program.

A total of 49,852 persons was screened for glaucoma in the program to prevent blindness. Of these 1385 persons were referred to eye doctors for diagnosis and evaluation. It is hoped that for these persons, blindness was delayed or prevented because they were found in time.

The licensing of hospitals and extended care facilities continued as a major State Board of Health program. Nine new hospitals added 1163 beds and 26 bassinets to the hospital picture. Three of these hospitals replaced former marginal physical plants; six



The Aedes aegypti **Eradication Program inspected 1.2 million premises in 1967.**

hospitals were new institutions. At the present time there are 192 hospitals licensed in Florida.

There were 277 nursing homes licensed, with a total of 18,399 beds. There were 67 homes for the aged, with 4333 beds, which assisted elderly persons who did not need medical care but who needed guidance in their diet, sleeping habits, and general care. In addition, 13 homes for special services, with 405 beds, were licensed.

Sixty-three agencies in 52 counties were certified as home health agencies by the Social Security Administration. These were assisted in qualifying for certification by the State Board of Health. Public health nurses and consultants resurveyed 31 agen-

cies, assisting them to maintain standards, and improve fiscal and clinical records.

A series of workshops were given to many public health nurses who would give direct patient care under Medicare but who had not worked with patients in a number of years. Two physical therapists were assigned to patients in 14 counties.

Indigents, Indians and Emergencies

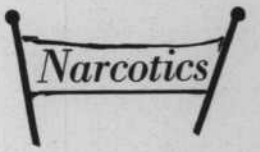
Many Floridians required assistance in meeting their health problems. The Hospital Service for the Indigent program spent $6.5 million in helping the medically indigents. This money came from both county and state sources. A total of 24,478 persons was admitted to hospitals for 193,351 days of patient care. The average per diem rate for 1967 was $36.94.

Approximately $2.1 million was spent on hospitalization for Public Assistance Recipients. This was down from the $3.8 million of 1966, because Medicare contributed to patients over 65 years of age.

Florida Indians received $109,500 in medical services. For the first time, public health and field medical services, including sanitation and dental work, were combined into one contract with the U. S. Public Health Service.

Under the ambulance certification law, the State Board of Health and County Health Departments licensed 197 establishments and 403 ambulances. More than 1000 attendants were issued cards which showed that they had passed the required first aid course.

The purpose of the Health Mobilization program is teaching Floridians to care for themselves during a disaster—either natural or man-made. School systems in 40 counties were teaching medical self-help courses. Aside from public school students, the course was taught to military, Civil Defense, Civil Air Patrol, Red Cross, health, airlines and hospital personnel; and policemen and firemen. Three hundred migrants received medical self-help training, and because of their limited education, they took the examination orally and received their certificates.



The 1967 Legislature transferred the responsibilities of enforcing the Uniform Narcotic Drug Law and the Florida Drug Abuse Law from the State Board of Health to the newly established Bureau of Law Enforcement.

However, the State Board of Health will continue to register practitioners of the healing arts, inspect drugstores, and administer the drug and cosmetic provisions of the Florida Food, Drug and Cosmetic Law.

A total of 666 cases was handled during 1967. Four hundred and fifty cases involved narcotics; amphetamines and barbiturates; 179 cases; pharmacy violations, two cases; medical violations, three cases; and five cases were under Chapter 500 of Florida Statutes, which deals with food, drugs and cosmetics. In addition, 27 persons were sent to state institutions for treatment of drug addiction. A total of 496 cases was disposed of by court action, and the remainder were still pending at the end of the year.

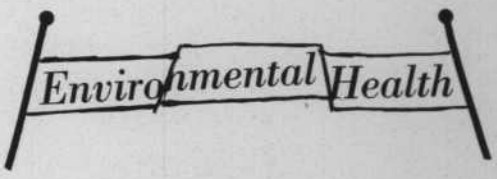


In 1967, the State Board of Health completed 20 years of supervision of the multi-million dollar pest control industry. A total of 831 pest control businesses was licensed; 4899 identification cards were issued to workers. In the campaign to protect homeowners from unprincipled and illegal operators, 58 persons were investigated and warrants issued against eight.

A total of 58 counties and mosquito control districts participated in the $8.1 million arthropod control program. Staffs of the Entomological Research Center, Encephalitis Research Center, and the West Florida Arthropod Research Laboratory continued to investigate mosquitoes, dogflies and other man-biting insects.

The **Aedes aegypti** Eradication Project spent over $3.2 million in 20 counties where over 1.2 million premises were inspected. At the end of the year, 724 of 846 operational zones were reported to be negative for the yellow fever-carrying mosquito.

A viral agent, first isolated in cotton rats in the Tampa Bay area in 1963, was identified in 1967 as a member of the Tacaribe group of viruses and named "Tamiami" by the U. S. Public Health Service's Communicable Disease Center. The health significance of the new virus is under investigation. It is a member of a larger group of viruses recovered in Central and South America which has been associated with hemorrhagic diseases in humans. The virus apparently has no arthropod vector and is transmitted by direct contact with urine and other excretions of cotton rats.



The 1967 Legislature gave the responsibility for air and water pollution control to the Florida Air and Water Pollution Control Commission. But the State Board of Health, through its sanitary engineers and professional staff, is working with the Commission by carrying on field work in all areas of the state.

Sanitarians made 174,788 visits to food establishments, including eating and drinking places, food processing plants, abattoirs, shellfish and crustacea plants, groceries and meat markets.

A total of 220 new mobile home parks, with 10,075 trailer spaces, was built in the state. There are now 2743 permitted parks with space for 120,426 trailers. Fifty-nine per cent of these spaces

are served by municipal water systems, and 48 per cent are connected to municipal or central sewerage systems.

Northwest Florida continued as the primary source of oysters. Shucking houses and packing plants in Franklin County (Apalachicola area) increased production by some 70,000 pounds, or approximately seven per cent over the 1966 production. A total of 148 shellfish houses was licensed. Of these, 66 are in the Apalachicola Bay area. Because of a "Red Tide" in the Gulf of Mexico, waters



Sanitarians made 174,788 visits to food establishments, including groceries and meat markets.

in Pinellas, Manatee, Sarasota, Lee and Charlotte Counties were temporarily closed.

A new state law, passed by the 1967 Legislature, required that all milk sold in the state must be pasteurized. This was to protect the public from bovine tuberculosis.

Public swimming pools for motels and apartment complexes continued to be built at a fast pace. The value of construction exceeded $5 million for the year. A total of 210 pool projects was approved, and plans for 20 were revised.

A total of 726 water works projects was approved by the State Board of Health. These had a construction cost of $31.2 million. Approximately 47 per cent of the projects were for municipal water facilities.

Plans for 968 waste water facilities were processed and approved. These had a construction cost of $48.2 million. At the present time, 1944 sewage treatment plants of various sizes and types are in use in the state. The majority of these are in the less than 50,000 gallons-per-day range and serve commercial establishments, schools, trailer parks, motels, etc.

The State Board of Health's bedding program protects consumers from fraudulent practices and misrepresentation of concealed materials. A total of 9254 items was found to be in violation

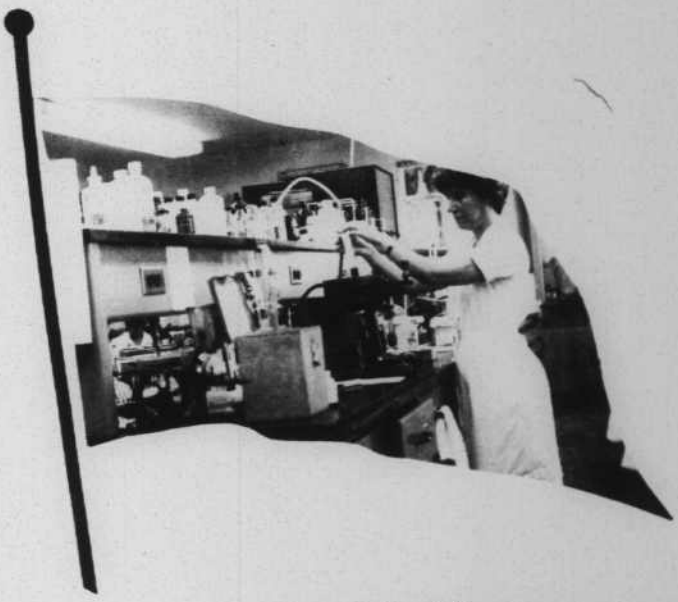
of the law. Of these 8874 items were corrected and replaced on sale. A number of additional items were condemned and returned to the manufacturers or restricted from sale.

The radiological health program continued to expand with 491 licenses issued for the use of radioactive materials. Samples of soil, seafood and vegetation from the Turkey Point area south of Miami were tested. This testing is to establish the background radiation for the area prior to the time the nuclear power generating station of the Florida Power and Light Company goes into operation. Sampling will continue after the plant starts up in 1971 to determine if there is a rise of radioactivity in the area.

A variety of occupational health studies were carried out. One study was made of scuba air tanks aboard the U. S. Coast and Geodetic Survey ship, **Oceanographer,** to determine the quality of air supplied by the compressor system for deep sea diving and the decompression chamber. Another study was made to determine the noise level created by barking dogs in an animal research laboratory.



The State Board of Health laboratories in Jacksonville, Miami, Tampa, West Palm Beach, Orlando, Tallahassee and Pensacola, and county laboratories in Brevard and Pinellas, provided services for regular and research programs of the County Health Departments,



Over 2.8 million examinations were performed by State Board of Health and county laboratories.

private physicians, hospitals, private laboratories and law enforcement agencies.

A total of 2,838,357 examinations was performed during 1967, an increase of 4.6 per cent over 1966. The number of phenylketonuria (PKU) Guthrie tests went from 44,648 in 1966, to 56,978 in 1967. Some 770,660 specimens were examined for syphilis, and of these, 27,420, or 3.6 per cent, were reactive for all categories of the disease. This is the lowest rate in the past five years.

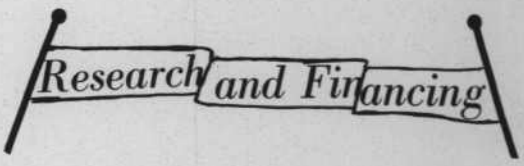
The State Board of Health was assigned the duties of inspecting and certifying independent laboratories for participation in the Medicare program and this was carried out in 1967.

The agency was also designated by the 1967 Legislature as the one to set up the rules and regulations relating to the chemical testing for alcohol in blood, saliva and urine of persons involved in moving traffic violations. The State Department of Public Safety is to administer the law but the State Board of Health is to issue permits to persons qualified to perform the alcohol tests. The health agency is also to approve methods and instruments for testing, and the training courses for law enforcement personnel.

Education and Information

Since the early days of public health in Florida, the State Board of Health has been responsible for health education of the citizens of the State. A total of 13,139 motion pictures and other audio-visual aids were loaned out. Some 357,800 pamphlets were distributed. Subjects most in demand were communicable diseases, nutrition, and safety; other popular subjects were planned parenthood, smoking and health, and chronic diseases. Twelve issues of **Florida Health Notes** were printed during 1967, with an average circulation of 21,500.

Five dental scholarships were awarded upon the recommendation of the State Board of Dental Examiners. Each recipient received a stipend of $2000 each year for up to four years. A total of 126 such scholarships has been awarded since the program started in 1955. One osteopathic scholarship was awarded upon the recommendation of the State Board of Osteopathic Medical Examiners.



In the early days of public health, improvement of the health picture was dependent upon the astute observation and deductions of the private physician. Now research aimed at improving the people's health is a highly complex activity requiring planning and coordination. Grants to the State Board of Health for research from federal government sources amounted to $750,000 in 1967.

Progress in public health can be measured in terms of development of better ways to protect the health of the public. An example of this is the important study of the effects of pesticides on man currently being carried on in South Florida. Because the state has required the registration of pesticide workers for the past 20 years, the state is in a unique position to make important contributions to the epidemiology of pesticide exposure.

Program expenditures for the State Board of Health's fiscal year ending June 30, 1967, totaled $35.5 million. This money came from state, federal, county, municipal and private sources. Each source had its own set of rules and regulations governing the administration and expenditure of the funds.

There was an increase in money spent on federally financed special and research projects. The major emphasis of these increased expenditures was in maternity and infant care projects

which were expanded to 16 additional counties. A new type of project for comprehensive health services for children and youth was started in Dade County.

Births, Deaths and Population

For the sixth successive year, Florida's birth rate decreased. Some 100,836 infants were born, a drop of 2116 from the final 1966 figures. The birth rate of 16.6 per 1000 population has declined steadily since 1956 when it stood at 24.7.

Public health officials believe the decline is due to modern contraceptive methods, socioeconomic conditions, and aspirations of persons in the child-bearing age for a better life for themselves and their children.

While the birth rate declined, the death rate continued its record-breaking climb for the 21st year. The 1967 death rate of 10.5 per 1000 population continued a slowly-rising trend which began in the mid-1950s. This upward trend is attributed largely to the in-migration of older people who prefer the state as a place to retire.

The 10 leading causes of death were: heart diseases, malignant neoplasms (cancer), cerebral vascular diseases (stroke), accidents, influenza-pneumonia, diseases of early infancy, emphysema and certain bronchopulmonic diseases, aortic aneurysm and other cir-



The State Board of Health and County Health Departments made some 769,300 70mm x-ray examinations in 1967 in the campaign against tuberculosis.

culatory diseases, cirrhosis of the liver, and general arteriosclerosis (hardening of the arteries). Suicides and homicides ranked 12th and 13th, respectively.

There were 2385 infant deaths for a record low of 23.7 per 1000 live births. This rate is still above infant death rates of Scandanavian countries which have rates of 14 to 17 per 1000 live births.

The 55,901 marriages topped the number set during the record-breaking year of 1943. The number of divorces, 28,363, also broke a mark of 26,352 set in 1946. However, the rates are less than those of the mid-1940s.

And so, the Parade Passes

These were some of the accomplishments and disappointments of 1967. Some areas of activity where dangers could arise or improvements could be made were:

* Poliomyelitis — There were no cases of the disease in Florida during 1967. But there is danger the dreaded disease could make another appearance. By the latter part of the year, 22.7 per cent of the children under 18 months of age had not been immunized against the disease.

* Tetanus and diphtheria — Florida was the second in the nation in the reporting of tetanus cases, and third in reported diphtheria cases. Both of these diseases are preventable through immunization which makes the situation sadly exasperating.

* Personnel — Major difficulties were experienced in finding qualified personnel to fill many key positions at the salaries the State Board of Health could pay. Many professional positions for engineers, nurses, statisticians, microbiologists, chemists, laboratory technicians and many others remain unfilled.

But, now the parade of 1967 has passed into history and the State Board of Health is nearly halfway into the next year. There were accomplishments and disappointments but the future is demanding that we move on in our campaign to improve the health of the people of Florida.

FLORIDA HEALTH NOTES



VOLUME 60—NO. 7

1968

PROBLEMS of the FAT Floridian

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(Cover photo) Overweight is a problem faced by many Floridians. It may be the result of consuming more calories than the body uses up in its daily activities.





HE DIDN'T KNOW HER — Mrs. C (above) weighed over 200 pounds and was six months pregnant when her husband went to Viet Nam with the Armed Forces. While he was in Southeast Asia, he wrote his wife suggesting that she lose weight. But she kept saying she could not—and that she was even gaining. Without telling her husband, Mrs. C joined a TOPS club and lost nearly 50 pounds. She changed the color of her hair, bought an attractive black dress and met Mr. C at the airport when he arrived from Viet Nam. As he got off the plane, he walked past her without recognizing her — until she called his name. Mr. C (right) now approved of the "new" Mrs. C.

PROBLEMS of the

FAT Floridian

"That was the day that was!"

"That was the day my son, John, said, 'Mom, I hate to hurt your feelings but you waddle when you walk!' Really, I didn't dream that I walked like a duck. But then . . . my husband has been dropping little hints that I should lose weight. Of course he has no room to talk . . ."

Mrs. Mike Boggess is talking about her Number One Problem — her weight. When she was married, she weighed about 105 pounds but now she is close to 200 pounds, far too much for her five foot-three inches height. Her physician keeps telling her that she needs to lose weight. Through carelessness, overeating, and lack of exercise, Mrs. Boggess has become one of the "Fat Floridians."

When does one consider himself too "fat?" A person's correct weight is relative to his age, height, bone and muscle structure. Even a person whose weight appears within the desirable range in a height-weight table may be too fat because he is of a slight bone structure, of small muscular development, and has excessive deposits of fat.

Often in conversation there is no distinction between overweight and obesity. A comparison of actual weight to desirable weight standards gives an indication of overweight. If you are 10 per cent above your desirable weight, according to the weight table found on page 177, you are overweight. Conservative estimates state that 20 million persons in the United States, out of a population of 200 million, are overweight. At a ratio of 1:10, this implies that roughly 600,000 Floridians are overweight.

Obesity means too much body fat. A person who is 20 per cent

over normal weight generally has excessive body fat and is obese. Public Health authorities estimate that five million Americans are obese. At a ratio of 1:40, there may be some 240,000 Floridians in this category.

This issue of **Florida Health Notes** will tell you about overweight as a public health and personal problem, the causes of obesity, fads and fallacies in weight reduction, sound approaches to weight control, and the effects of obesity on your health.

Obesity as a Personal Problem

If you are overweight, like Mrs. Boggess, you may have had a few clues that point to you as one of the "Fat Floridians." These are:

If your clothes are too tight;

If you are on the receiving end of unkind jokes and comments from friends and family;

If you are unable to move easily or bend over comfortably;

If you are out of breath on mild exertion;

If you take an honest look in your mirror and you see that bulges are developing;

If you don't believe your bathroom scales are telling the truth; or

If your physician tells you to lose weight.

You may have a health problem, too!

Physicians say that obese people are more susceptible to diseases of the heart, circulatory and kidney diseases, high blood pressure, diabetes and cancer, as well as other infirmities. There is an indication that they suffer from other illnesses, such as gall

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bladder and liver disorders, to a much greater degree than slim people. They are a risk for surgery. Overweight people have a tendency toward more accidents.

Excessive weight gain occurs more frequently in certain ages or physiological periods. One study showed that 11 per cent of adolescent girls are overweight. Women are likely to gain weight after completion of growth (about age 20), during pregnancy, or at menopause. Other studies have shown that 37 to 40 per cent of women 35 years of age and older are overweight.

Men do not have a specific age at which they put on weight but they frequently gain extra pounds between the ages of 25 and 40 with a slight acceleration after 40. Men are often said to develop "middle age spread" which could be a combination of added weight and weak muscles. Many men who were physically active in school and college gain weight when they settle down to a sedentary desk job and retain their school boy appetites.

Why are the Boggesses Overweight?

"We Boggesses love to eat. We ride everywhere we go. My husband and the boys like to watch ball games on TV. They just sit there and eat . . . eat and watch television." Mrs. Boggess was explaining the family's activities.

There are a number of factors which contribute to the overweight of the Boggess family. Mr. Boggess has a shorter work week than his father and has more time to spend in inactivity. He also has a desk job while his father was more active. The family drives its automobile instead of walking; watches ball games on television instead of going to the stadium; goes to the movies instead of playing ball, swimming, or bowling.

More appliances make housework easier and gives Mrs. Boggess less activity. She loves to cook with plenty of gravies and sauces and likes to make fancy whipped cream desserts which her family thoroughly enjoys in large servings.

Up to 25 years ago, overweight people were generally thought to have an endocrine or glandular disease. If this could not be



In one Florida county health department clinic, a teenager (left) is weighed by a public health nurse and (opposite page) is given advise by a doctor on her diet. The teenagers in this clinic have formed a weight-watchers club.

proved, they were thought to have an internal disorder, such as a defective metabolism.

Now it is generally agreed that "calorie intake in excess of energy output" explains most overweight. This concept, based on the law of conservation of energy, is that if the energy value of the food consumed is equal to the energy the body uses through exercise or daily activity, a person's weight will remain the same.

Today, public health officials estimate that only one or two persons out of every 100 overweight persons have an endocrine or metabolic disorder associated with their overweight condition. Most people are overweight because they eat more food than their bodies need.

Mrs. Boggess explains her overweight family by saying "it runs in the family." Although a person's body structure and height is inherited through chromosomes and genes, overweight is not. Much more important is the Boggess family's eating habits. Both Mr. and Mrs. Boggess' parents were large people who ate tremendous meals and the children naturally copied their parents' eating habits. If a child of overweight parents eats the same food his parents eat, in the same amount and with the same frequency, he too will be overweight. Also, the ways foods are prepared—with extra fat and many sweets—contribute to the problem.

There may be psychological reasons why the Boggesses are overweight. Many of the "Fat Floridians" are emotionally stable persons but every physician has seen individuals who eat too much because they are insecure, lonely, depressed or bored. Many persons have found that they can relieve their feelings or tensions, anxieties or frustrations by eating. It's a safety valve. Because of attitudes developed during childhood, some people eat large amounts of food, such as candy or ice cream, because these foods have come to represent security and love.



Fads and Fallacies of Weight Reduction

"I've tried all kinds of diets . . . high protein, low carbohydrate, high fat, along with pep pills, magic formulas . . . and all of those reducing plans suggested in magazines. I sometimes lose a little weight but I gain it all right back again. I've even tried the drinking man's diet," Mrs. Boggess said.

The "Fat Floridians" make up a ready market for quacks and promoters of health foods and fads which are "guaranteed" to take off pounds with no or little effort on the part of the would-be reducers. Some promoters advertise "calories don't count." Others tell you to take their prepared pills and "eat what you want." There are a number of items on the market, such as formulas, cookies, and other foods which are supposed to be substitutes for normal foods.

People have tried to slim down by means of health clubs and resorts, milk farms, and thought processes. They have tried cigarettes to "puff your pounds away," solutions to "bathe your fat away, and cocktails to "drink your fat away."

Diet foods may look good and taste satisfactorily, but they may be short on the necessary food values and they soon lose their appeal. Machines can roll, vibrate, stretch, steam off pounds; but unless there is a nutritionally adequate, calorie-controlled diet to go with the exercise, weight will return.

One diet, the so-called "Mayo" diet which is a high fat, low carbohydrate diet, claims to change the chemistry of the body and result in a magical weight loss. Because of its heavy content of eggs, it is more likely to result in an increased blood cholesterol level that could be dangerous to the potential heart patient. This diet, which has no resemblances to any of the diets used by the Mayo Clinic and its related hospitals, has a high fat content (and therefore high calories) and is deficient in calcium, iron, vitamin A, thiamine and riboflavin. One State Board of Health physician reported that in his family one person concentrated on a balanced diet combined with moderate exercise and lost 15 pounds, while another person gained five pounds following the "Mayo" diet.

Currently weight reduction pills for curbing the appetite or performing some other bodily function are fashionable. State Board of Health physicians and nutritionists say that the indiscriminating use of these "diet pills" can be dangerous and any medication for the reduction of weight should be taken under the supervision of a physician.

The Sound Approach to Weight Control

"Okay . . . I want to lose weight but it's my glands. I think I will live longer if I lose weight . . . but overweight runs in the family. I know I will feel better generally, but this is just middle-age spread." Mrs. Boggess was making excuses why she couldn't lose weight.

Mrs. Boggess needs to be motivated to act. She really won't lose weight until she is really interested in trying. Appearance or vanity might be more motivating than health unless some serious health problem is diagnosed by her physician.

Her daughter, Mary, finds that romance is a strong motivating factor to lose weight. She would like to date the football captain at her school but she knows that he only likes girls who are trim. Also, if Mary wants to enter nursing school or become an airline stewardess, she would have to lose weight.

Mrs. Boggess' son needs to lose weight before he can pass his physical examination to enter the Marines. If he wants to join the State Police, fire department or the FBI, he would have to be within the desirable weight range.

Before she begins to diet, Mrs. Boggess needs to see her physician and have a complete physical examination. She should find out what her weight should be and obtain professional advice on diet and exercise. A history of her weight development should be obtained by her physician, and her past and present eating habits evaluated.

Some people need to be placed on a rigid diet under their doctor's supervision. Other people, having been told the main principles of weight control, may be able to select their own diets. Others benefit by participating in a group weight control program.

Principles of Reducing

The overweight person has excessive deposits of fat or unused food energy in his body. The basic principle of weight reduction is to make the body use up these deposits of fat to meet its daily energy needs. This can be accomplished by cutting down calorie (or food energy value) intake and also by increasing, through exercise, the amount of energy the body uses.

The point is not to simply cut down on food but also to change the kinds of food eaten. Persons who try to lose weight by eating less may be still consuming foods high in concentrated fats, sugars



A member of a TOPS club enjoys a nutritious, weight - reducing meal, consisting of a salad, deep yellow vegetables, egg and fruit. Skim milk is also on her menu.

and starches, and may be taking in more calories than a person who eats a nutritious, calorie-controlled diet.

At the same time, the person who eliminates all fats and starchy foods may be endangering his health because he may be cutting out foods that supply the body with vitamins, minerals, and proteins.

The overweight Floridian should understand the requirements of a nutritionally adequate diet, with emphasis on the four basic food groups — milk and dairy products, meats, vegetables-fruits, and bread-cereals.

In order to cut down on calories, learn to prepare your food with less fat. Instead, bake, broil, or steam your food. Cut in half the fat used in seasonings or salad dressings. Omit fat when it is not essential. Use less sugar and sweets. Eat fruits for desserts. Snack on fruits rather than candy or cookies.

A good weight reducing diet should include:

* sufficient protein. Children need protein for growth and adults need it for body repair and maintenance. You should have 60 to 80 grams of protein (found in meat, chicken, fish, eggs or milk) every day. There should be two or three servings of meat, fish, etc., and two cups of milk consumed daily.

* adequate minerals and vitamins from fruits, vegetables, whole grain and enriched cereal products and breads. Foods in the diet should supply the minerals and vitamins. It is up to your physician to prescribe multiple vitamin tablets or capsules if he thinks you need them.

A good weight reducing diet should help establish a person's eating habits for the future. **The primary goal of any reducing program must be to permanently change eating habits and to maintain the weight loss.** That is why reducing methods which advocate special formulas, starvation, missing meals or excluding one particular favorite food are really useless.

Foods that should be completely eliminated or severely curtailed during weight reduction are: sugar-loaded soft drinks, candy, cookies, pastries, fried and fatty foods, and alcoholic beverages, including beer.

In general, foods that should be reduced in quantity, because

of their fat or carbohydrate content are: butter or margarine, cream, ice cream, gravies, sauces, salad oils, and nuts.

Dividing the daily food intake approximately equally between breakfast, lunch and dinner is most helpful. The person who skips breakfast, has a quick lunch and a heavy dinner, deprives his body of food energy during the hours when he needs the greatest amount. Breakfast should consist of about one-third of the food consumed during the day because the body has been without food (fuel) all night, and its ability to work will drop greatly before lunch if little food is eaten at breakfast.

Exercise and Weight Reduction

"I know we don't get enough exercise. But when I walk any distance, I want to eat more. My son, John, went in for weight lifting . . . but it didn't last long. I have all of the electrical home appliances that take the hard work out of housework." Mrs. Boggess was emphatic that she is not interested in exercise.

Physicians and nutritionists agree that moderate exercise should be part of a weight-reduction program, providing there is no increase in the amount of food eaten. But sporadic efforts are of little value. Exercise should be taken daily—not just once a week. In addition to using calories, exercise tones up muscles and stimulates circulation.

A program of exercise should be discussed with the physician. The most desirable type of and amount of exercise for an individual will depend upon his habits, his age and his personal health. In

In this issue of Florida Health Notes we will not recommend any specific or special diet. Since no two persons can be treated alike, we believe that you should consult your physician for the proper diet and the right amount of exercise.

some cases where an overweight person has a heart condition, the wrong kind of exercise may be dangerous.

Various types of exercise can use calories. The more vigorous the exercise, the more calories used.

* Sedentary activities, such as reading and watching television, use only 40 calories per hour; sewing, 50 calories.

* Moderate exercise, such as rapid typing, 100 calories per hour; walking slowly, 100-150; sweeping, 150; light gardening, 200.

* More vigorous exercise, such as walking quickly, 250 calories per hour; golfing, 300; bowling, 350; dancing 300-500; and swimming, 300-700.

A large apple will give the number of calories used in 19 minutes of walking, nine minutes of swimming or 78 minutes of reclining. On the other hand, a club sandwich provides calories equivalent to nearly two hours of walking, one-half hour of swimming, or 7½ hours reclining.

Pregnancy and Obesity

Pregnancy is a time when many women may gain too much weight. Many women eat more than is necessary during this period, probably on the false assumption that they are "eating for two."

Normal weight prior to the prenatal period and an orderly increase in weight during pregnancy are important to avoid complications. Most women will normally gain between 16 and 24 pounds during pregnancy. This represents weight of the unborn baby, fluids and maternal tissue. Women who are overweight at the time pregnancy begins may do well to gain the smaller amount.

Many physicians consider weight gain of more than 20 pounds to be excessive and may be detrimental to the patient and the unborn baby since this represents fat deposits added by the mother and/or abnormal water retention.










A Guide to Good







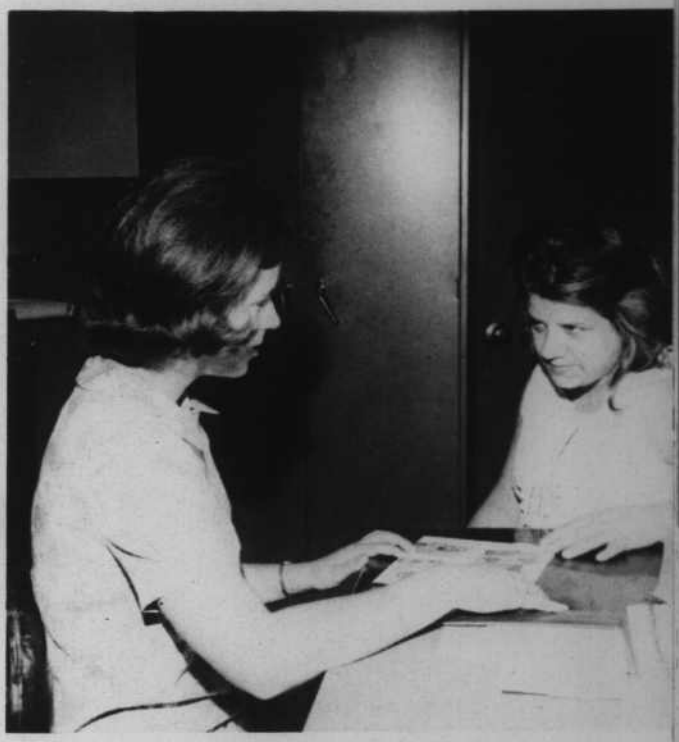
The Seminole Indians of the Brighton Reservations have formed a weight watchers club in conjunction with the public health clinic. (Top, left to right) The public health nurse discusses a diet problem with a Seminole matron, judges the weight of a skirt, weighs one of the men who belongs to the club and talks over a weight problem with an Indian couple. A clinic aide records the weights. (Bottom, left to right) The county health director and nurse enjoys a joke with the Seminole woman, who receives some appetite-depressing pills before she leaves.

Overweight may be accompanied by complications during delivery, increased chances of prematurity, and toxemia. Symptoms of toxemia may be high blood pressure, swelling of the hands and ankles, and albumin in the urine. Toxemia may appear in overweight women, those who gain weight rapidly, and those who have a history of nutritionally poor diets.

Drastic weight reduction of an expectant mother who is obese is not advised by physicians. Instead of advising the mother to count calories public health nutritionists find it best to emphasis foods to meet the nutritional needs of the family. A mother with many children and limited food budget may need considerable guidance in buying food to get the most food value for her money and foods which are acceptable to her and her family. Such advice is given to mothers in Florida's public health clinics by physicians, public health nurses and nutritionists.







Public health nutritionists and nurses work together in the Maternal and Infant Care Projects to guide expectant mothers through their pregnancy. An expectant mother (opposite page) is visited in her home by the nutritionists, weighed at the clinic by the public health nurse, and given advice on proper diet.

The Overweight Child

"I like to see my children eat well. They have snacks when they get home from school, during the evening or whenever they want them. Yes! They are a little overweight but that is only natural." Mrs. Boggess, who weighs 200 pounds, feels that growing children should eat all they want.

But Mrs. Boggess' children, like their mother, were overweight because of overeating and lack of exercise. They are so much overweight that they caught the attention of the public health nurse from the County Health Department who visited the school.

She made a call at the Boggess home and after consulting with the mother, urged that the children be taken to their private physician.

A mother has great influence over her children, especially during the first 10 years of their lives. If she is overweight, her eating habits, the meals she serves, and her attitudes may encourage overeating.

A child experiences stress from problems of growth, sexual development, and emotional factors. In an insecure and anxious child, these factors may lead to overeating.

A child may eat too many snacks. He may have a snack when he returns from school, while doing homework, or watching television. Snacks are not harmful if they are the right kinds of food, such as fruit or milk. They can be part of a nutritious diet, while other foods, such as soft drinks, cookies, and potato chips supply unnecessary calories.

Many mothers observe that their sons constantly raid the refrigerator. A boy between 15 and 18 years of age needs about 3400 calories a day. The recommended calories to maintain weight are:

AGE	MEN (5 Ft., 9 in.)	WOMEN (5 Ft., 4 in.)
18 to 35	2900	2100
35 to 55	2600	1900
55 to 75	2200	1600

Children's Diets

Overweight children become overweight adults because the urge to eat more and exercise less becomes greater as they grow older. Therefore a child's food habits are important. Food habits should begin with good infant feeding and well planned meals in preschool years. Increased participation in sports and social activities should gradually be combined with good food habits as the child reaches the teen years.

According to a recent survey made in California, teenagers are less active than they believe they are. Teenagers were found to spend a little more time in moderate and strenuous activities than adults. However, they also spend more time sleeping and in very light activity (lying or sitting down) than adults. While boys were found to favor playing baseball, swimming, skiing, boating and riding bicycles, they also like to listen to records and radio, watch movies, television and ball games, which are quite sedentary. Girls like to dance, swim or ride horseback as active sports, but other favorite pastimes were listening to records and radio, watching movies and television, and cooking and shopping.

Obesity and Health

Mrs. Boggess could have problems developing from obesity. As a child she was told "finish your dinner or you can't go out to play" and "eat your meal or you can't have any dessert." Now as an adult, the rules are changed and she is told "You shouldn't eat so much."

But her physical condition may be affected adversely by her obesity. Heart disease, high blood pressure, hardening of the arteries, diabetes, osteoarthritis (the kind of arthritis occuring within elderly people), and many other abnormal conditions occur more often in overweight people.

Many physicians believe that overweight people are more likely to die of heart disease than slim people. The connection between heart disease and overweight is believed to be due to the fact that obesity puts a greater load on the heart and blood vessels in overcoming the mechanical resistance of pumping blood through fatty tissues. Overweight patients with coronary artery disease generally seem to feel better after they lose weight, and report fewer attacks of angina.

Hypertension, or high blood pressure, is about twice as common in overweight people as in those of normal weight. If overweight people with hypertension reduce to a normal weight, their blood pressure often falls, especially during the first few weeks of diet-

ing, and it often rises again when the weight is regained. Prevention of obesity may postpone the development of diabetes and weight reduction may change overt (active) diabetes to latent (hidden) diabetes.

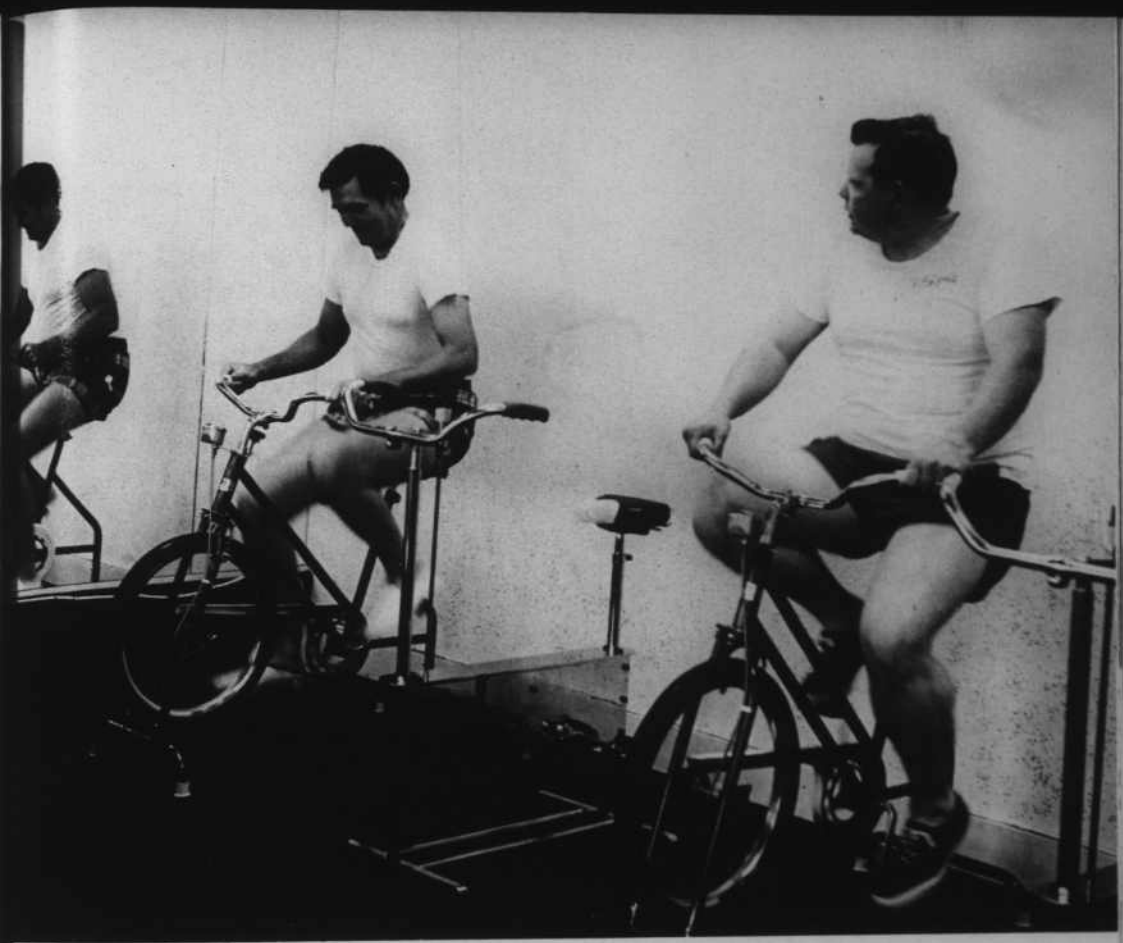
There is also a relationship between the degree of obesity and mortality. The mortality rate for diabetic men 45 years of age or older who are 5 to 14 per cent overweight is double that of men the same age of normal weight. The death rate for diabetic men 14 to 26 per cent overweight is four times that of normal men; for those 26 per cent or more overweight, the death rate is 10 times as high.

Obesity may have some relationship to cancer mortality. The cancer death rate for persons 25 per cent overweight is 143 per 100,000 persons. The cancer mortality rate for persons with normal weight is 111 per 100,000 persons and for those underweight, the cancer mortality rate is even less.

For Those Who Stop Smoking

The person who gives up smoking may find that he is developing a weight problem. A few days after he stops using cigarettes, he may find his taste buds regaining their former sensitivity and food becomes more appealing. The ex-smoker begins to eat too much. He may substitute food or candy for cigarettes—then he faces a problem that applies not only to laymen but to physicians and nurses when they join the ranks of ex-smokers.

The most sensible thing for an ex-smoker to do is lick one problem at a time. The first thing is to kick the cigarette habit, even if he has to gain a little weight. If this happens, if he is informed of this fact, and is advised to watch his food intake and to diet and exercise, he may avoid gaining weight. For those who need snacks to replace cigarettes, celery strips, carrot sticks, fresh or dried fruit can serve as a substitute. Exercise will assist in using up the excessive calories.



Moderate exercise should be part of any weight-reduction program, providing there is no increase in the consumption of food. Exercise not only uses up excess calories but tones up muscles and stimulates circulation.

Prevention Is The Best Policy

"If I had only known how to avoid putting on weight, I might have never gotten fat. But I went to my doctor and he helped me to lose weight. I do feel better." After consulting with her physician and following his instructions, Mrs. Boggess' weight was down to what her doctor felt it should be. Now she needs to prevent obesity from creeping up on her again. Physicians say it is better not to reduce at all rather than to repeatedly lose and regain weight.

Mrs. Boggess won her battle against overweight, but she would have been better off if it had never occurred. She learned that being overweight is unnecessary and potentially dangerous. She



Members of a TOPS (Take Off Pounds Sensibly) club are weighed at each meeting and if they gain during the week (opposite page), they must sit in the "pig pen." The member losing the most weight is crowned "Queen" of the meeting.

found that as a wife and mother she played an important role in determining the eating habits of her family and whether or not they developed a weight problem.

Mrs. Boggess also learned the basic principles of nutrition and discovered that everyone in the family should be taught what makes a good diet. Since the child's earliest years are the ones in which food habits begin, mothers are frequently taught proper feeding in pediatric offices and well-baby clinics. They learn that the largest baby or the child gaining the most weight is not necessarily the healthiest or the best baby.

Nutritionists and physicians believe that nutrition education should be taught in the primary and junior high schools with emphasis on weight control. Heights and weights should be recorded periodically. Children who have underlying emotional problems which lead to overeating may need referral to child guidance and mental health clinics.

The nutritionists of the State Board of Health and County Health Departments work in maternity clinics and in patients' homes to teach expectant mothers how to control weight and how

o choose the foods for good health for mother and baby. They lso work in public health clinics to counsel patients, who have eart disease, diabetes, arthritis, and other chronic diseases, about ow to control their diets.

The nutritionists cooperate with nurses from the Crippled Children's Commission to help children who are less active or have walking difficulties. Other activities include serving as counselors to TOPS (Take Off Pounds Sensibly) clubs, teen clubs, school health programs, Diet Forums, and screening programs.

The diet forum in one Florida city has a membership of 150 and is sponsored by the County Health Department and several other organizations. To qualify for membership, the members must make an effort to lose weight, eat at least 1000 calories each day, and be under a physician's supervision.

As with TOPS and other weight control clubs, each member is weighed at the weekly meetings and the person losing the most weight is honored. Nutrition consultants speak at meetings, assist with diets, judge low calorie cooking contests, and give general encouragement.



Floridians Eat Too Much

Many Floridians love to eat — but they are no different than other Americans. Whenever there is a meeting, there is food of some kind. Social gatherings have their refreshments.

We eat . . . eat . . . eat . . . at birthday parties, bridge luncheons, banquets, picnics, cocktail parties, church suppers. The cooks who win the prizes at county fairs are the ones who make the richest foods. The best known cooks are famous for their desserts, sauces, and high calorie delicacies. It is time to consider as the best cooks those who give their families the simply prepared nutritious meals which include the basic food groups. Cooks should compete to serve low calorie, nutritious meals at bridge luncheons and church dinners.

At one meeting held recently in Florida where a physician, nutritionist and home economist were talking about foods, a member of the audience arose and addressed the group:

"I would like to make a plea for less food at meetings and social gatherings. When I come to see you at home, I don't want

Tips on Cutting Calories

If you have a weight problem, there are many ways to cut calories. Drink water, low calorie soft drinks and fruit juices instead of sweetened beverages. Use skim or buttermilk instead of whole milk. Cut fat off meat—use more lean meat, chicken and fish and then only enough to satisfy your hunger. Do not overeat. Do not get over-hungry and then gorge. If snacks in evening are a habit, get interested in another activity. Women can knit or crochet to keep hands busy.

WEIGHT TABLES

Weight in pounds according to frame (in indoor clothing)

	Height	Small Frame	Medium Frame	Large Frame
	5 ft. 2 in.	112-120	118-129	126-141
	3 in.	115-123	121-133	129-144
	4 in.	118-126	124-136	132-148
DESIRABLE	5 in.	121-129	127-139	135-152
	6 in.	124-133	130-143	138-156
WEIGHTS	7 in.	128-137	134-147	142-161
	8 in.	132-141	138-152	147-166
FOR MEN	9 in.	136-145	142-156	151-170
	10 in.	140-150	146-160	155-174
of ages	11 in.	144-154	150-165	159-179
25	6 ft. 0 in.	148-158	154-170	164-184
and	1 in.	152-162	158-175	168-189
over	2 in.	156-167	162-180	173-194
	3 in.	160-171	167-185	178-199
	4 in.	164-175	172-190	182-204

	4 ft. 10 in.	92- 98	96-107	104-119
	11 in.	94-101	98-110	106-122
	5 ft 0 in.	96-104	101-113	109-125
	1 in.	99-107	104-116	112-128
DESIRABLE	2 in.	102-110	107-119	115-131
	3 in.	105-113	110-122	118-134
WEIGHTS	4 in.	108-116	113-126	121-138
	5 in.	111-119	116-130	125-142
FOR	6 in.	114-123	120-135	129-146
	7 in.	118-127	124-139	133-150
WOMEN	8 in.	122-131	128-143	137-154
	9 in.	126-135	132-147	141-158
of ages	10 in.	130-140	136-151	145-163
25 and	11 in.	134-144	140-155	149-168
over	6 ft. 0 in.	138-148	144-159	153-173

food; I come to see you. We don't need so much food. There is an old adage which says, 'We dig our graves with our spoons.' "

Though many Floridians may not have a weight problem, there are many who do. Overeating and the lack of exercise can put on weight. If you think you are overweight, see your physician and take his advice. Your County Health Department and State Board of Health also can help.

Pamphlets and Films

Some of the pamphlets and films on weight control available from the Division of Health Education and Audio-Visual Library of the State Board of Health, Box 210, Jacksonville, Florida 32201, are:

Pamphlets

"What Everyone Should Know About Obesity"

"The Healthy Way to Weigh Less"

"Eat and Enjoy It"

Films

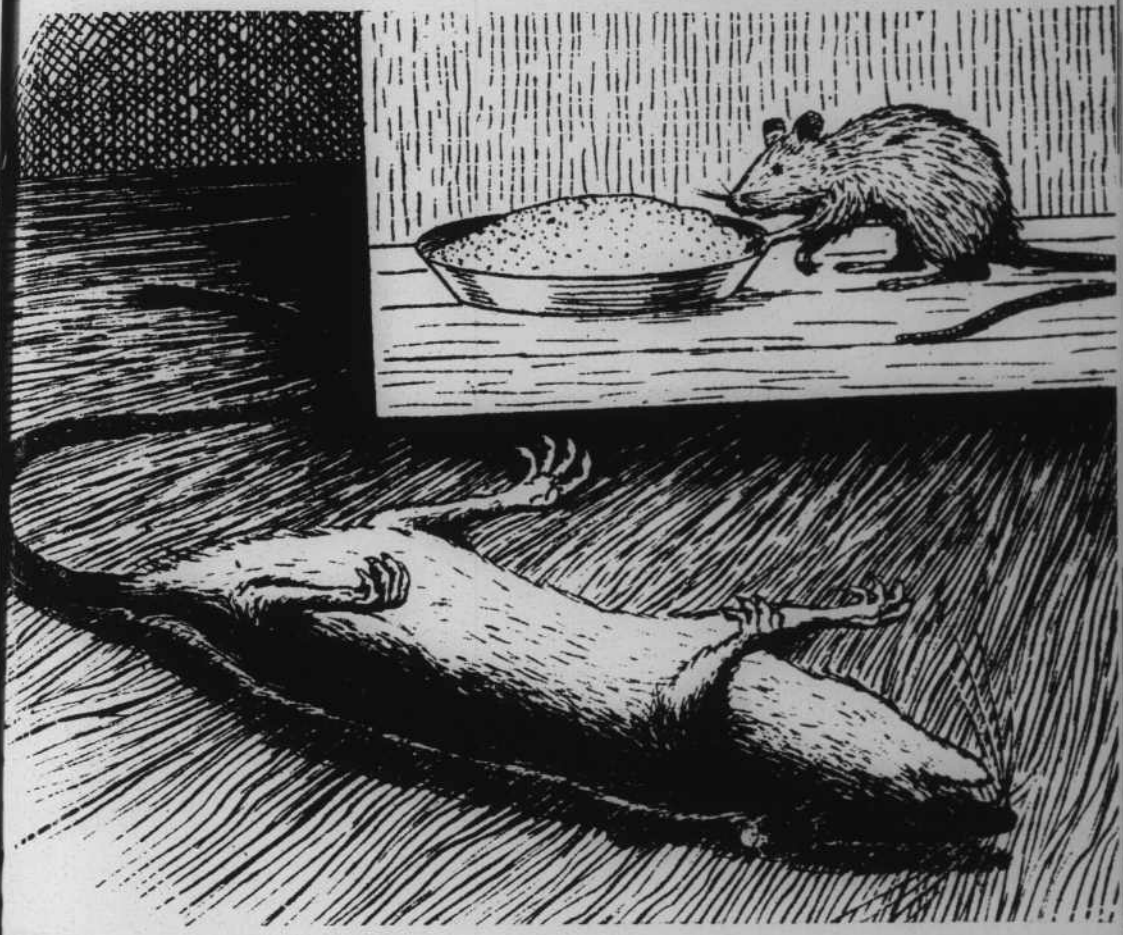
"Facts About Figures" — factual information about weight control; emphasizes that unrealistic weight control measures can be dangerous.

"Weight Reduction Though Diet" — gives an effective plan to weight reduction through proper eating.

"The Ordeal of Thomas Moon" — an overweight man makes a decision to do something about his problems.

"Losing to Win" — problems of overweight and how they may be sensibly met.

FLORIDA HEALTH NOTES

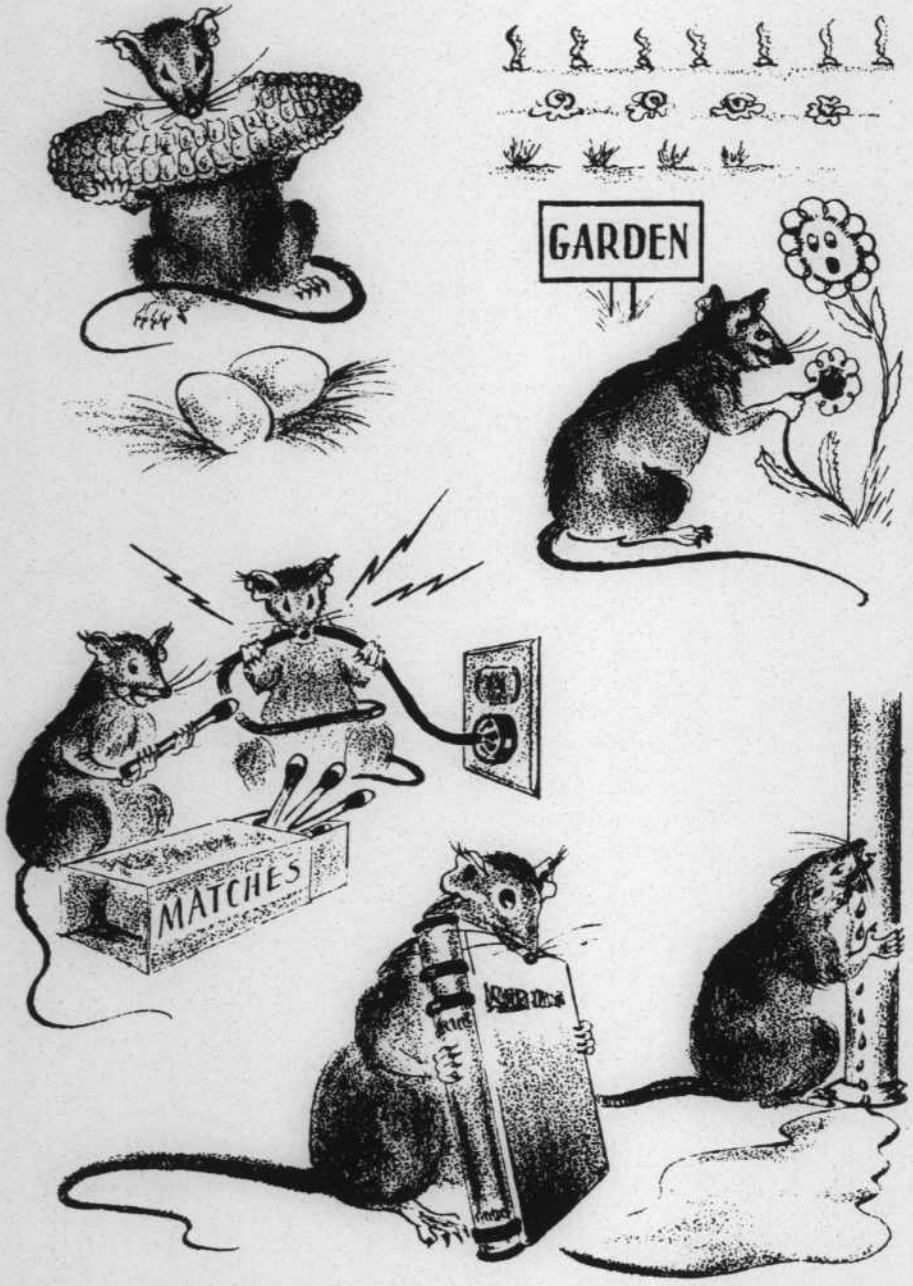


VOLUME 60—NO. 8

AUGUST 1968

Knock Out . . . rats

FLORIDA STATE LIBRARY



Rats and mice destroy food, gardens and crops (top), start fires (center) and damage books and buildings (bottom). No humane society has ever defended these pests.

KNOCK OUT

.....RATS

Man has been combating rats and mice across much of the earth for hundreds of years. His control efforts have taken numerous forms. The problem is so prominent that young men have been counseled to "build a better mousetrap and the world will beat a path to your door."

While some attempts at control have been temporarily successful, Florida has had no "Pied Piper of Hamelin Town" to completely eradicate the rodent. Therefore, rodent control is constantly carried on by the pest control industry and some of the County Health Departments, as well as the individual homeowner. Without these control activities, the animals would multiply to a dangerous level throughout the state because there are no effective natural predators and there is usually a plentiful food supply.

In the United States, rodents include such native animals as squirrels, woodchucks, field and woods mice, pack rats, gophers, porcupines and beavers. However, this issue of **Florida Health Notes** will concern itself with those three introduced species, the Norway rat **(Rattus norvegicus)**, the roof rat **(Rattus rattus)**, and the house mouse **(Mus musculus)**, which belong to the Old World family of **Muridae**, commonly referred to as "domestic" rodents but more properly called murine rodents.

(Cover photo) Rats can be killed by many methods, including poisons, and trapping. The best defense is good premise sanitation.

Many of the native North American rodents are of considerable economic importance to man, some for their pelts, and others because of their damage to crops, stored foods and other materials. The three imported murine rodents are far more destructive than the native rodents. They are among the most numerous, adaptable, hardy, and prolific of God's creatures, and yet, they are perhaps the most despised and unwanted. No humane society has yet fathered the cause of these rodents.

Unwelcome Guest

House mice and rats are found almost everywhere man dwells. They inhabit his buildings, destroy and contaminate his food and property, and endanger his health. The rodents are said to cause at least one billion dollars' damage and depredation annually in the United States. For centuries they have had, and still have, notoriously bad reputations for

stealing, consuming, and contaminating human and animal food;

spreading ravaging diseases, such as murine typhus and plague;

causing rat bite, fright, terror, and neuroses;
destroying clothing, fibres, and other commodities; and

carrying blood-sucking fleas, lice, mites, ticks, and intestinal parasites, such as tapeworms, spiny-headed worms, and tongue worms.

FLORIDA HEALTH NOTES

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VOLUME 60—NO. 8 **AUGUST 1968**



This business place has an infestation of roof rats which climb up these shelves leaving "rub" marks on the edges.

Rodents and Diseases

Man's indifference and carelessness in handling foodstuff and refuse have fostered populations of rats and mice in such close proximity to his home and work that they are called "domestic" rodents. As a result of this relationship, man suffers from rat bites and rodent-borne diseases.

Murine typhus fever is transmitted from rats to man by the rat flea. It is milder than epidemic typhus, which is transmitted by human lice, and is not a symptomatic rodent disease.

Plague is the "Black Death" which once killed millions of people in Europe, Asia, and Africa. There has been no serious outbreak in the United States since 1924, but an occasional single case of "sylvatic" plague is still reported. A reservoir of the plague exists

in wild rodents in the western United States and is transmitted by the bite of rodent-carried fleas from rodent to rodent, and from rodent to man. There is danger that "domestic" rodents will become infested and in turn will carry the infection to man. The disease is fatal to rats, fleas and man.

Leptospirosis infections in man result from contact, directly or indirectly, with infected urine of rodents. The spirochetes, which are found in water or on food, may enter through mucous membranes, minor cuts or abrasions of the skin. The disease is often found in sailors, miners, sewer workers, fish or poultry dealers and abattoir workers. It is not generally a fatal disease.

Rat-bite fever is caused by bacteria, and also a spirochete, found on the teeth and gums of rats and transferred to man by the bite of a rat.

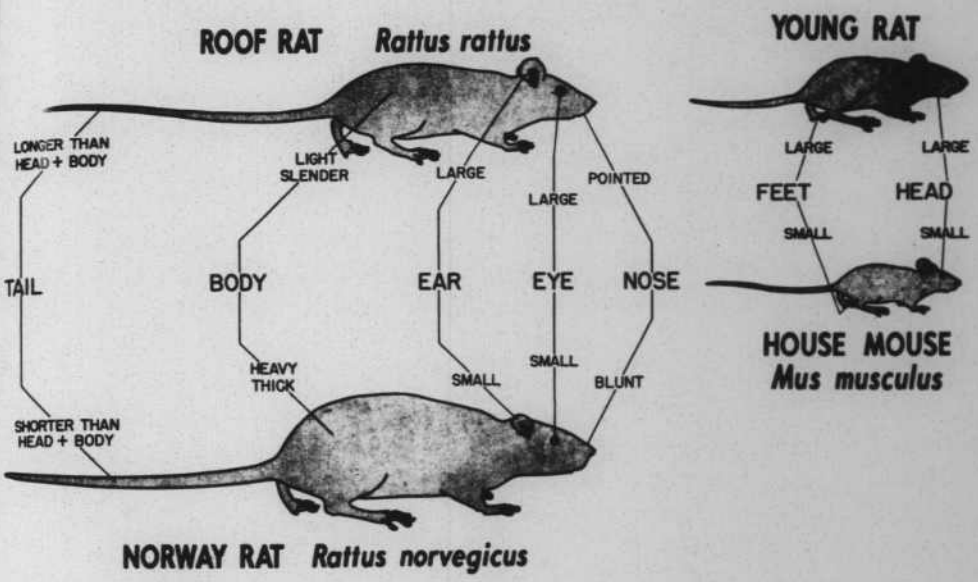
Salmonellosis is a common disease of world-wide distribution. Such food poisonings that cause diarrhea and dysentery are spread in several ways, one being by contamination of food with rat feces containing the bacteria.

Rickettsialpox is an infection, resembling chickenpox, which is transmitted from the house mouse to man by the bite of a certain mite harbored by the mouse.

Tamiami Virus is found in cotton rats in the Everglades and the Tampa area. The virus is responsible for severe hemorrhagic fever in humans in Central and South America.

Trichinosis is a serious debilitating disease of man. It is also present in swine, cats, bears and rats. This disease is contracted by eating the meat of infected animals. Rats aid in spreading the disease among pigs. Man becomes infected by eating improperly cooked or cured pork.

FIELD IDENTIFICATION OF DOMESTIC RODENTS



Rat bites, while not a disease, readily become infected and leave ugly scars. Although reliable statistics are not available, it can be safely assumed that thousands of rat bite cases occur in the United States annually. One Florida county has an average of 30-35 reported rat bite cases each year.

The Murine Rodents

The **Norway rat** (sometimes called brown, sewer, wharf, house or barn rat) is generally found throughout the United States and temperate regions of the world. It burrows in the ground, under foundations of buildings, and in rubbish dumps, and nests at or below ground level. The Norway rat will gnaw its way through

wooden walls to gain access to livestock feed and there are cases where they have attacked babies and helpless or paralyzed people. An adult rat weights about one pound; has a reddish brown coat, blunt muzzle, a tail shorter than its body, and small ears.

The **roof rat** (also called black, gray or fruit rat) is an agile climber and ranges throughout the South and tropics. It lives outdoors in tree tops, dense vines or luxuriant vegetation during the warmer months but during the cooler months it will invade buildings where it lives in attics, false ceilings, walls, and enclosed spaces of cabinets. An adult roof rat weighs eight to 12 ounces, has fur



Rats are creatures of habit and use familiar "runs" or trails. This homeowner points to rat signs — "rub" marks around an opening between concrete and wood construction.

ranging from black to grayish-white, pointed muzzle, tail longer than its body and head, and large ears.

The **house mouse**, the smallest of domestic rodents, is found from the tropics to the Arctic regions. It prefers the "American Plan" where food and lodgings are available. It lives in convenient spaces in walls, cabinets and furniture. The mouse weighs only one-half ounce, is dusky gray in color, and has a small, slender body. Its tail is about as long as its body and head, and its ears are large and prominent. The ears and eyes are small compared to the native field mice.

A single pair of Norway rats can produce more than 1500 rats within a year and if it weren't for the predators and disease, and other natural enemies to control the rodents, the world, instead of going to the proverbial dogs, would be overrun with rats. An outbreak of house mice in a dry lake bed in California where grain was growing produced almost 70,000 mice per acre.

It's A Rat's Life

The life of a rat or mouse is fairly short. Norway and roof rats mature in three to five months while the house mouse reaches maturity in 1½ months. Each female will have four to seven litters in a year with five to 12 young in each litter. The young are born about three weeks after mating.

Birth is preceded by a flurry of nest building by the mother. Nests are built of paper and cloth in a quiet place near a supply of food. Although the female remains quiet, she is very nervous and may be disturbed by intrusion. Two or three females may share the same nest. Newborn rats and mice are helpless in many ways—born hairless and poorly developed—unable to hear or see. In a week they begin to show signs of hair and in 12 to 14 days their eyes are open.

Young rodents gradually become familiar with their surroundings. By imitation and experience, they become foragers when about three weeks old. Their first trips away from the nest are usually by accident, clinging to their mother as she leaves. Later they follow her short distances until they regularly accompany her as she goes about her normal activities. By the time they are three months old, they are very active and this remains high until about nine months of age when old ages overtakes them and they slow down.

Rats and mice have two major behavior patterns — one superimposed on the other. When food is abundant, the rat shows the greatest activity in the first half of the night. House mice show a similar pattern of nocturnal activity with a second peak of activity between midnight and dawn. Superimposed on this nocturnal activity are short periods of restlessness and activity occurring every few hours throughout the day and night. These shorter activity spurts are related to periodic stomach contractions of rats —possibly the need for food. However, this nocturnal activity breaks down when the amount of food available is below the daily needs of the population and then rodents will forage and eat at any time.

Knowing where rats and mice are likely to go is important in such control procedures as ratproofing. Rats like to use regular paths or runways along a horizontal plane, such as a wall. When they want a piece of food, they will run under or behind things until they can get as close to the food as possible. If the food is in the open, a short dash is the only exposure to danger. If traps or bait are placed far from the runways, the less likely they will be visited.

Rats and mice are afraid of strange objects, even strange food. This habit contributes greatly to their ability to survive even in a dangerous or deadly environment. It is the rodent's nature to be investigative but they are cautious. This leads to many interesting stories about the "crafty" or "intelligent" rat. Experiments have shown that changes in the design or placement of a feeding tray or leaving lights on in a normally dark room will cause a drop in feeding. If an object is removed, the rodents will go around the place where the object had been rather than take the shorter route open to them.



Roof rats leave signs of their presence in a feed mill. Rub markings on the beam shows that they have used it as a runway.

Searching For Food

Rats will use any method to obtain food. Roof rats are notorious climbers, climbing vertical brick walls, treading wires, or anything on which they can get a toehold. Vine covered walls make perfect runways and since they provide concealment, they can be used day or night. Smooth surfaces can be climbed if there is a pipe, or corner of something on which a rat can brace its back.

Rats can reach as much as 13 inches along smooth vertical walls, make a standing high jump of nearly two feet, or leap three feet when they can get a running start, and bounce against the vertical surface two-thirds of the way up to get a boost. Roof rats can leap at least eight feet in jumping down from an elevation twice that



Holes under buildings may be signs that rats and mice are present. This outdoor runway is a clean-swept earthen path by which rodents enter the house.

high. However, rats and mice do not climb at every opportunity. They work only as hard as is necessary, and only when they are driven by hunger, nesting, or lack of shelter will they try "astonishing feats."

All three species are good swimmers and rats have been known to swim a half-mile in open waters. In many large cities, they will use sewer lines as regular highways, and enter buildings through a break in the sewer, through traps, or through a manhole. Norway rats are capable burrowers and often tunnel underground to gain entry or to nest and shelter.

Nature seldom has provided an animal with a more effective cutting tool than the rodent's front or incisor teeth. Young rats and mice begin to gnaw as early as the second week of life. Their teeth grow from 4½ to 5½ inches a year and the constant gnawing

and grinding action of the opposing teeth help keep them short and sharp. Rats and mice will gnaw anything. Some of this may be to keep the teeth short, for some of the gnawing seems to serve no other purpose. This may explain why some holes are larger than necessary or the random cutting of furniture legs and counter posts. To get food, they will gnaw on wood, paper board, cloth sacks, lead pipes, cinder blocks, asbestos and aluminum. They have pierced concrete used for ratproofing before it has had time to harden, and even gnawed through sun-dried adobe.

Feeding Habits

The choice of food for rats and mice is determined largely by the environment in which the rodents live. The Norway rat and housemice originally came from the grain-producing regions of Asia where their diets probably consisted of this sort of food. However, they have become adapted to a wide range of foods. Little is known about the type of country in which the roof rat originated.



Norway rats have dug under this building and beneath these rocks. In this particular case, food was available at a feed mill.

YOU Can Kill that Ra

A Go to the feed store, drug store or garden supply store and purchase a 1 oz., or 4 oz. package of
WARFARIN, DIPHACINONE, FUMARIN, PIVAL, PMP, PROLIN or any other "label approved anticoagulant" which may be secured as a concentrate powder and mixed according to directions.

B Use WARFARIN 0.5% at the rate of one tablespoonful to 19 tablespoonfuls of yellow corn meal and mix thoroughly. For mice, substitute one tablespoon of powdered sugar for one tablespoon of corn meal. A slight amount of peanut oil will add to the acceptance.

C Place mixed bait material in small flat containers in rat runs and places accessible to rats.

1 **Bait Materials:**
a. Yellow corn meal
b. White corn meal
c. Laying mash
d. Sweet feed
e. Dairy feed
f. Rolled oats

2 **Bait Containers:**
a. Sardine cans
b. Cigar boxes
c. Small dishes
d. Tin pie pans
e. Meat or food counter trays

3 **Placing and maintaining the Bait Material:**
a. It is important that a great number of bait containers be distributed so the rats can contact them without too much effort.
b. Bait containers must be kept filled at all times and they should remain out for at least 14 days and longer if rats are present. Place containers where they will not tip over or be swept out, and where the bait will not get wet.
c. You will not obtain good results with spoiled or mouldy bait or if you allow the containers to become empty. In stores

t - Simple as ABC, 123

and other places where traffic is heavy and space is limited the bait containers should be placed inside protected bait boxes.

HOW RATS ARE KILLED

These powders contain an anti-blood coagulating chemical which causes internal hemorrhage. It it tasteless and odorless in concentrations used for rodent control. It is a slow killer. An unusual feature is that one dose is rarely fatal even to rats and mice. These are not miracle poisons. Baits must be eaten several times (usually five or more) over a period of several days to produce death. Death seems to be painless and rats dying from eating these baits do not scare the others away and the remaining rats continue to eat the bait.

PRECAUTIONS

Anti-coagulants are relatively safe for the general public to use. particularly when put out in a grain or cereal-type bait. A cereal-type bait would not be attractive under most conditions to flesh eating mammals such as dogs or cats. This type of bait would appeal to poultry but chickens are very resistant to these chemicals, especially if they are fed a diet high in Vitamin K.

LABELS

Three types of anti-coagulants are sold at most stores. They are:

1. Powdered concentrates for mixing with dry bait materials 1 - 19 parts.

2. Water-soluble concentrates. Usually packaged in foil packages, each of which will make a quart of solution.

3. Ready-mix baits. May be used as dry baits, pellets, or waxy solids which resist moist conditions.

STOP — READ THE LABEL — FOLLOW THE DIRECTIONS

Norway rats, when they feed on mixed garbage, perfer grain and grain products (oats, corn), fish, apples, cooked eggs and potatoes. However, they have little desire for raw beets, peaches, onions, celery, cauliflower and green peppers. They have an aversion for highly spiced foods.

Citrus fruits are not preferred by roof rats but in Florida roof rats are considered serious pests in citrus groves. This may be because there is little other choice of food. Citrus growers know when rats are present. When opossums, raccoons and chickens eat the fruit, they mutilate it and leave a ragged edge on the rind. Roof rats gnaw a symmetrical hole in the fruit and eat the pulp and seeds.

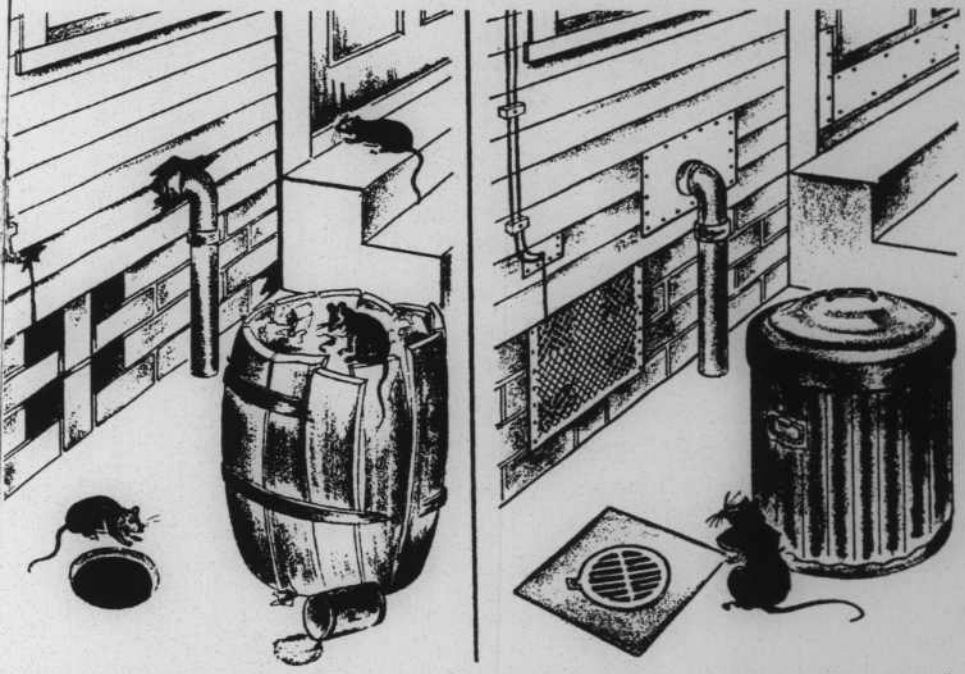
Rats have been known to steal eggs by inserting their teeth into a small hole cut in the shell and carrying the eggs away. They may eat insects, principally beetles and caterpillars, if no other food is available. An example of their carnivorous habits occurred on one pigeon-raising farm where they gnawed the backs of helpless live young birds. When no other foods were available, they have been known to eat their young or each other.

Rodents usually carry food back to their hiding places. If the pieces are small, the food may be carried to protective cover a piece at a time, or eaten on the spot. Rats and mice will eat in the open only if they are starved, if no enemies are around, or if the pieces are too big to move to cover. Both the Norway and roof rats are steady eaters; mice are nibblers, taking a bite here and a bite there.

Signs of Rodents

Rodents at one time were easy to find in many Florida cities. They could be found dead in the streets—hit by cars during the night, or they could be killed by clubs in warehouses. In some Florida cities they are still a problem.

Rodents leave characteristic signs of their activities behind them. Often a person has only to inspect an area to determine the extent of rat or mouse infestation. Through proper interpretation of the signs, the species, degree of infestation, location of the pests, and their habits can be determined.



Rodents can be "built out" of homes with screens, metal flashings around doors, pipes and wires, drain covers, and tightly-covered garbage cans.

The most positive proof is to see a live rat or mouse. However, since these animals are nocturnal and secretive in their habits, live animals are seldom seen. Only where there is a very heavy population do rats and mice show themselves when humans are present.

Dead rodents may indicate either a current or past infestation. If the carcass is dried or reduced to a skeleton, it may mean only a previous infestation. If many recently dead animals are found, perhaps poison has been used in the area. If poisons have not been used, there is the possibility that there is a disease epidemic among the rodents. If dead rodents are found, they should not be handled with bare hands.

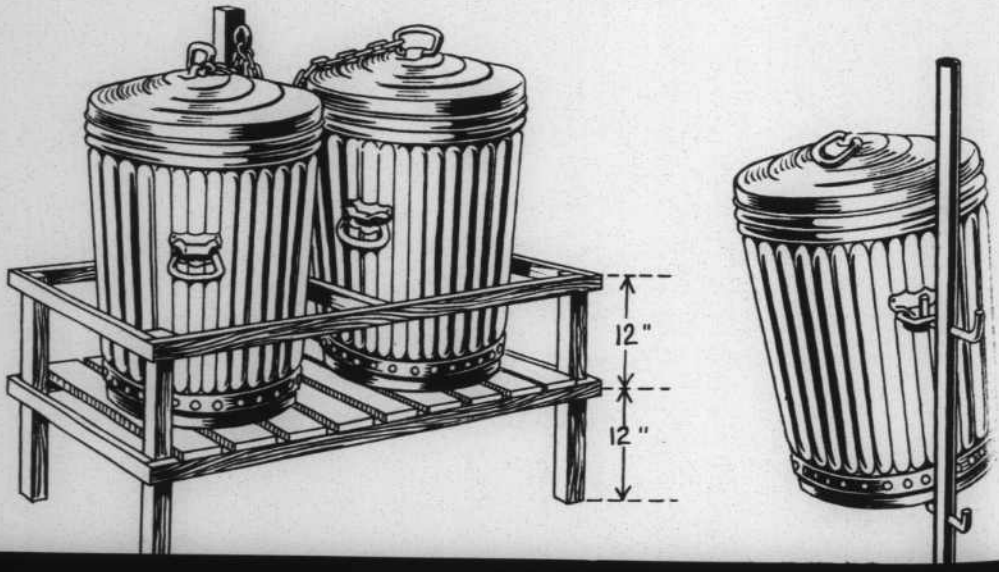
Even if you are not an expert in rodent control, there are signs by which you can determine if rats and mice are present. Various sounds, especially when an area is quiet, may give clues to rodents' presence and location. All rodents leave a quantity of droppings and

here is a key to species and number of pests. Since Norway and roof rats seldom occupy the same area, several sizes of droppings may indicate different age groups, that reproduction is going on, and an extensive infestation.

Since rats and mice generally occupy only a limited area, they use the same pathways many times. The location of these runways reflects the rodent's secretive habits. Most often they are found along walls, pipes and rafters; under boards, behind stored objects and accumulated litter. Outdoor runways may appear as clean-swept, well-packed earthen paths. In dusty areas, tracks may be made in the dust and even the wavy lines of a dragged tail may show. Dark rub marks may appear in and on buildings, around gnawed holes, along pipes, and on the edges of stairs, beams or shelves where natural oils and dirt have rubbed off the rodents' bodies.

Gnawed bones, food wrappers, seed hulls and other debris may accumulate around rodents' feeding stations or at the entrance to holes. The rat or mouse drags the food to the hole and feeds on it by poking its head out of the hole. The freshness of the food scraps may indicate how long the activity has been occurring.

To keep out rats, garbage cans should have tight lids and be raised off the ground.



Clean Premises - Best Control Measure

We've talked about the various species of rodents, their habits, and the food they eat. Rats and mice will stay where they can find the three essentials of life — food, water and shelter.

Good housekeeping — that is good general domestic, janitorial cleanliness on the premises, is the most important, indeed, the only indispensable defense against these pests. Without good housekeeping and food sanitation in the domestic rodent elimination program, control and prevention is virtually impossible. Good sanitary practices are important in preventing or staving off an infestation, and providing the death blow to any existing infestation. Elimination and deprivation of food source is the key.

There are some areas in Florida where rodents are more prevalent than others:

waterfront and downtown areas which are deserted at night and where water and scraps of food from restaurants are available;

industrial areas where workers eat their lunches and leave scraps of food around, and where piles of material provide hiding places;

beaches and picnic areas where people leave food and where breakwaters or other buildings furnish shelter;

lower socioeconomic neighborhoods with substandard housing; where lack of knowledge, carelessness, and indifference are usually basic reasons for leaving piles of refuse which shelter rodents; and improperly stored garbage which supplies large rodent populations with food; and

refuse dumps which are not only aesthetically offensive because of smoke or odors but which provide shelter, food and water for rodents, flies and mosquitoes.

The proper storage, collection and disposal of refuse, together with premise maintenance and proper storage of materials and products are important in rodent control. Garbage should be stored in cans which are water-tight; rust resistant; easily filled, emptied and cleaned; and fitted with a tight lid — in other words — rodent proof. Bulk storage containers are usually quite satisfactory at apartment buildings, housing projects, or commercial establishments.

Collection of garbage should be made at least twice a week and trash picked up at least once a week to keep refuse from piling up. The collection should be efficient enough so that litter will not be scattered around after the collection has been made. Refuse and garbage should be disposed of by burying in properly-operated landfills, kitchen disposal units, incinerators or composting. Logs and stumps should be reduced in size and placed in landfills.

Rodent Control Programs

All County Health Departments have a continuing interest in seeing that rats are kept under control but few have routine eradication programs — other than, in a few instances, supplying the local citizen with rat bait if he asks for it. Local Health Department sanitarians do provide consultation on the detection and elimination of rodents in both public and private premises. Also, searching for signs of rats is an important part of the inspection routine conducted by sanitarians in food handling, moving and storage establishments.

The federally-supported **Aedes aegypti** (Mosquito) Eradication Project, while basically working to rid the state of the yellow fever-carrying mosquito, is also helping to control rodents through encouraging the removal of refuse from private premises. When the Project goes into a county to set up its eradication procedures, it works closely with the County Health Department and other agencies already in existence to rid the area of refuse which eliminates harborage places for rats and mice.

Sponsors for a "clean up" project are usually block clubs, civic improvement associations, Boys and Girl Scouts and neighborhood

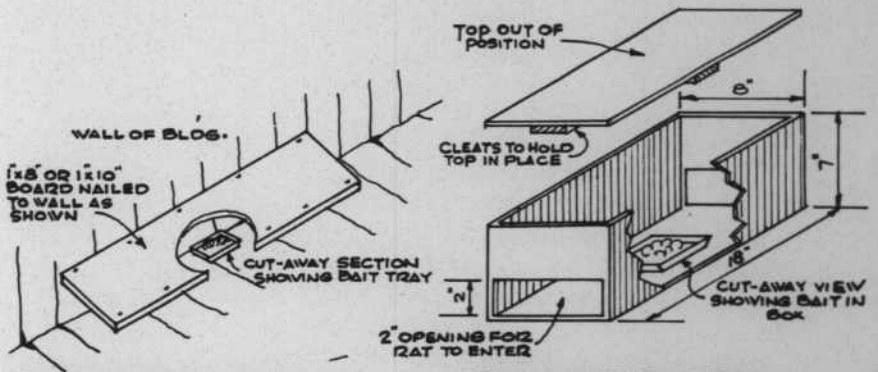
centers. Multi-agency cooperation is carried on through the County Health Department, the State Board of Health, sanitation departments, neighborhood centers and the **Aedes aegypti** Project.

House-to-house visits are made and homeowners are urged to clean up their premises. Children in school are told about the cleanup campaign and given check lists to see that trash and refuse are cleaned up around their homes. Residents are encouraged to protect their health by removing refuse and placing all tin cans, old tires, water holding containers and other junk at the curb for pickup.

Vacant lots are cleaned up by volunteers, youth service organizations, and Youth Corps Workers. Residents of lower socio-economic areas are encouraged to keep the refuse from collecting around their homes and the County Health Departments and the State Board of Health strive to continue this motivation.

Controlling the Rodent

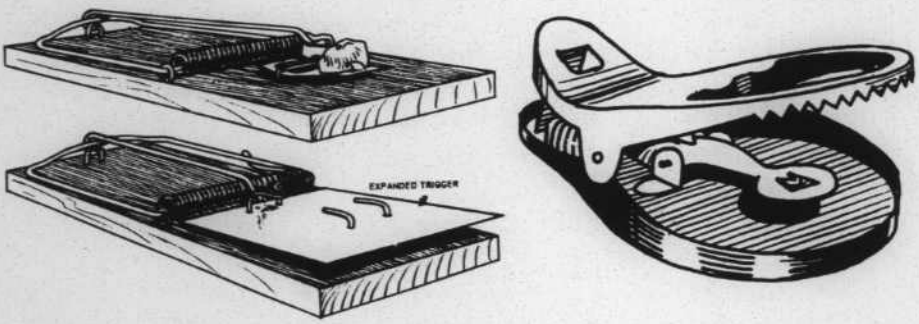
The principal methods of controlling rats and mice are
exclusion or stoppage;
poisoned bait;
traps; and
poisonous gases and dusts.



·TEMPORARY·BAIT·STATION·

·PERMANENT·BAIT·BOX·

BOX MAY BE CONSTRUCTED OF PLYWOOD, 1" BOARDS OR OTHER SUITABLE MATERIAL AVAILABLE.



Bait or steel ring traps can be used to kill rodents.

Man is the most conspicuous predator on rodents although traps, poisoned bait, and gases actually do the killing — but these are only tools. If properly used with food sanitary practices and rat proofing they will do the job. Other predators are cats, dogs, foxes, ferrets, hawks, owls and snakes. Cats enjoy the reputation of being good "ratters" but domestic cats are generally too well fed to kill rodents on any big scale.

The supply of food, water and shelter has a lot to do with the number of rats. The chief sources of food in urban areas are stored products and garbage. In rural areas, crops, such as grains, sugar cane and fruits in orchards, are a third source.

Shelter for rodents can be eliminated. When new buildings are constructed, rats can be "built out." Since openings as small as one-half inch will admit young rats, openings in ground floor windows, sidewalk gratings, basement vents, utility pipe openings, and foundation walls need ratproofing. Where roof rats are found, upper floors, wires and vertical pipe openings must be ratproofed.

Metal cuffs and plates can be placed on wooden doors on side or back entrances to buildings to prevent rats from gnawing under or around doors. Door jambs can be flashed with sheet metal. Because open doors provide ready entry, both screened and wooden doors to food-handling and service establishments should be tightly-fitted and equipped with self-closing devices.

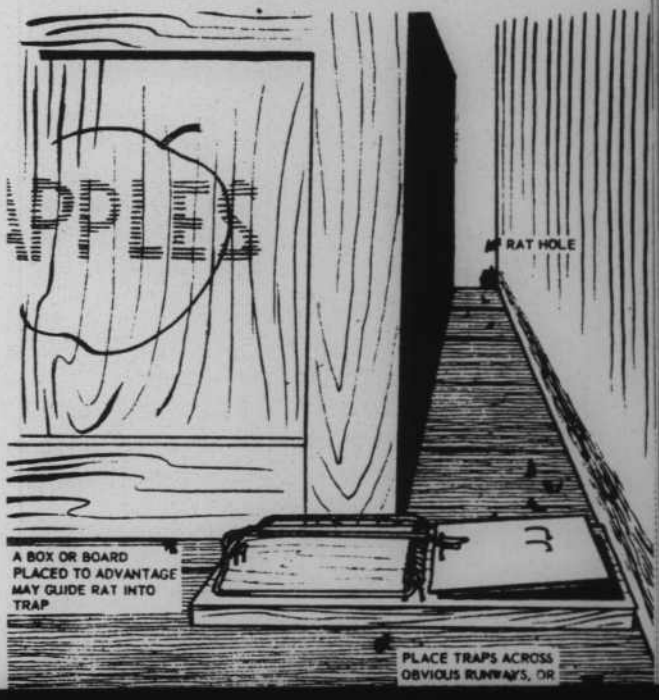
Vents and windows must be screened with one quarter inch hardware cloth, preferably in a sheet metal frame. Fly screening can also be incorporated into the same frame to keep out insects.

Rodents frequently set up housekeeping in air spaces beneath Florida homes and the vents to these air spaces should be covered with quarter inch hardware cloth. Openings around pipes or conduits, which rats may use as entranceways to buildings, should be filled with concrete, hot poured coal tar pitch, or closed with metal guards or steel wool.

Traps can be used
to eliminate rats where poison bait would be dangerous or undesirable;
to avoid dead rat odors,
to eliminate bait-shy rats, or
to catch live rats.

The snap trap is the most effective for killing rats and particularly mice. The bait, preferably lean, fresh bacon; should be fastened to the trigger. For rat control, the trigger may be expanded with cardboard or screen wire and the trap used unbaited.

Baited traps should be placed in or near rat runways, near a wall or other vertical surface, and placed at a right angle to the wall with the trigger end toward the wall. Thus a rat running along the wall from either direction will discover the bait. Traps should be fastened so that if a rat is caught by a tail or foot, it cannot drag the trap away. Fresh bait should be changed frequently. Rats like fresh bait and will not eat rancid bacon or moldy cake.



Traps should be placed in runways that rodents use.

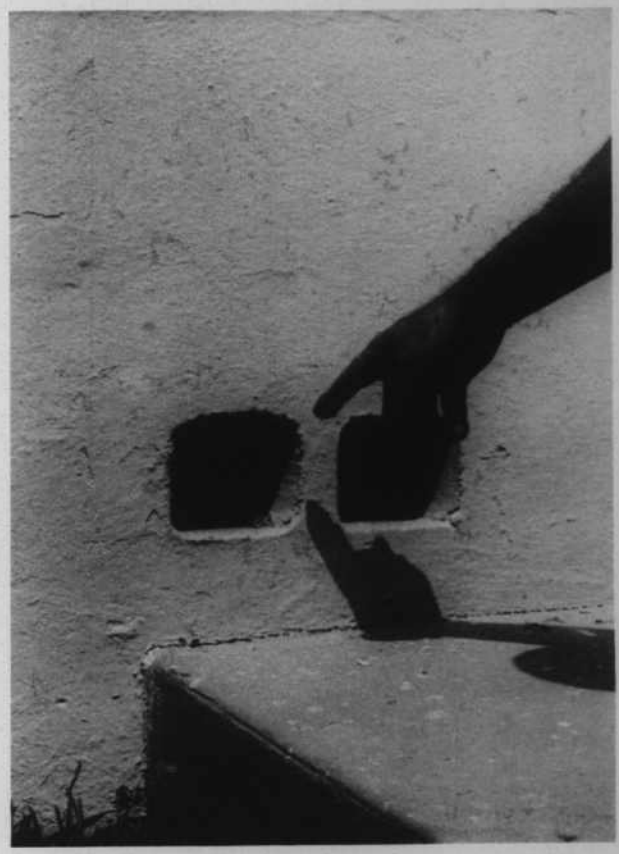
Steel traps are not commonly used by the public but they are effective in the hands of a good trapper. Steel traps (No. 0) are set only in rat runs and chained to the floor with the traps far enough apart so a rat caught in one cannot spring another. Steel traps are usually set unbaited with the trap jaws parallel to the runway. Box traps, with a treadle, have great use by trained individuals. Runs should be confined with boxes, boards or other objects with traps in the most confined part.

One of the most common ways of ridding a premise of rodents is by using chemically impregnated food baits which are intended to kill when the rats eat the tasty morsels. Man has been doing this for centuries and yet rats and mice are still commonplace. Therefore, all aspects of rodent control are important — good housekeeping, trapping and poisoning. Poisoned baits alone will not permanently reduce the number of rodents unless good sanitation and rat stoppage are also practiced.

Some chemical rodenticides have been used for many years. These are red squill, zinc phosphide, barium carbonate, ANTU, and the arsenicals, especially arsenic trioxide (white arsenic) and strychnine. With the exception of red squill, these rodenticides are not recommended for use by the general public because of their highly toxic nature or other drawbacks.

More recently a new class of rodenticides have become available for the use of the layman who is interested in eliminating rodents from his premises. There are anti-coagulant rodenticides, which kill by internal bleeding. Examples of this type of bait are Diphacinon (Diphacin), Fumarin, Pival (Pivalyn), P.M.P., Prolin, and Warfarin.

Rats will not eat poisoned bait if there is other food around. The older forms of rodenticides are called "single dose poisons", and if a rat does not eat enough to kill him, he will become bait shy and refuse to eat any more of the bait. The anticoagulants must be digested by the rat in small amounts for three or four successive days before the poison becomes effective. Even if he is weakened, the rat apparently does not associate the loss of strength with the food supply. Because rats will avoid strange foods or take only token amounts, the best method is to pre-bait, that is to put out non-poisoned food for several days before adding the poison. This method also helps to select the most attractive bait.



A screen on the air vent beneath this Florida home keeps out unwanted rodents.

You can obtain prepared, ready-to-use anticoagulant rodent bait products or "concentrate" from your favorite store.

Be sure to read and follow the directions and precautions on all rodenticides and pesticide labels.

Fumigation is an excellent means of eliminating rats quickly in a sealed building, the hold of a ship, a boxcar, burrow or other sealed space. This method is extremely dangerous and should be carried out only by licensed pest control operators.

Dead Rat Odors

All dead rodents should first be sprayed or dusted with an insect spray or dust and then removed and buried or burned. However, if a rat dies in an inaccessible place, objectional odors may develop.

The following steps may be used to obtain relief:

use fans to increase the air circulation;

use commercial deodorizing or odor-masking products, such as oil of pine, peppermint or wintergreen as an aerosol, mist spray, or in a bowl or bottle with a cotton wick; or

drill a hole in the wall above the carcass and pour in a mixture composed of one part para-dichlorobenzene, one part hydrated lime, and four parts of talc (magnesium silicate).

A Clean City - A New Way of Life

A clean city reflects clean neighborhoods, which in turn reflects clean private and commercial premises. But Florida will never have a Pied Piper to lead the rats away so it is up to everyone to make sure his premises are free of refuse, trash, and uncovered garbage that will feed and shelter rodents.

Controlling rodents is possible but it takes constant trapping, poisoning and especially good housekeeping (with special emphasis on tight-fitting garbage cans and other containers). By taking these necesary steps to rodent control, you can assure your family and your neighbors a new way of life and better health. KNOCKING OUT RATS, remember, is everyone's business.

If You Need Help

Often it may be advisable for an individual homeowner or businessman to call in a reputable, licensed commercial pest control operator to handle his rodent problem. This may save time, worry and futile efforts in trying to cope with a difficult rat or mouse problem. One should make certain that the exterminator representing a licensed firm has an identification card (with his signature and picture thereon) as required by Florida law. This indicates that he is trained. If you do not know of a reliable firm, consult the yellow pages of your telephone directory, your local chamber of commerce, better business bureau, County Health Department, or the State Board of Health.

FLORIDA HEALTH NOTES



VOLUME 60—NO. 9

SEPTEMBER 1968

DIABETES . . . goes to school

FLORIDA STATE LIBRARY

(Cover photo) Any child in this schoolroom may be a juvenile diabetic. One cannot tell from appearances. A school should have an emergency plan to care for children with such health problems.



A youngster makes a daily urine check at a camp for diabetic children held each year by the Florida Diabetes Association. A consultant from the State Board of Health works with the camp staff.

DIABETES
. . . goes to school

Susan, eight years of age, has just been diagnosed as a juvenile diabetic. Her parents, teachers and principal, the State Board of Health and the County Health Departments are concerned that she be properly cared for if an emergency arises while she is in school. If Susan eats the wrong food or participates in strenuous activities at the wrong time and she goes into insulin reaction or diabetic coma, the teachers and principal should know what to do.

Unfortunately, not all teachers are informed on juvenile diabetes and if one of their students suddenly feels badly, they may react in a manner that reflects misinformation. This reaction may be largely due to the shock of seeing one of their students suddenly fainting, and to a general lack of information on the subject of diabetes in general.

The problems of the diabetic child in school are not insurmountable as long as some course or method of action to handle diabetic emergencies has been developed within the school system.

The responsibility for the welfare of children in school lies with the school boards. This responsibility is usually delegated by the board to each school principal, and by him to the individual teacher. In the case of the diabetic child, the parents, the physician and the children, themselves, play the major roles in the welfare of these children.

Historically, juvenile diabetes has, until the early 1920's, always resulted in the death of the patient. This, however, has changed due to the discovery of insulin. Juvenile diabetes is characterized by a lack of insulin being produced by the individual's pancreas. The juvenile diabetic does not respond to treatment

by exercise and diet alone because of the body's inability to produce insulin. Because the juvenile diabetic's pancreas does not produce insulin in sufficient quantities, and because children undergo many traumatic experiences by just "growing up," their diabetic conditions are rarely if ever stable. They are more prone to have their control upset by emotional experiences and the physical development of puberty. Currently there are an estimated 5000 to 6000 juvenile diabetics in Florida, most of whom attend school.

It is necessary, in order to lessen the chances of the diabetic emergencies involving diabetic coma, or insulin reaction, that a "team" approach be used. This team should consist of persons directly associated with or in contact with diabetic children during their school routine, as well as the diabetics' physicians and parents.

In order to remove some of the doubt, misconceptions and misinformation pertaining to the juvenile forms of diabetes, this issue of **Florida Health Notes** will offer suggestions which we feel will benefit those concerned in assisting the diabetic child to adjust, with as few complications as possible, to his environment and future life.

As mentioned previously, many persons should be involved with and have responsibility for certain health aspects involving the diabetic schoolchild. The main responsibility lies with the child's parents and physician. The school board and administrative staff have a general responsibility for the health, safety and welfare of the child while he is in school.

FLORIDA HEALTH NOTES

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VOLUME 60—NO. 9 **SEPTEMBER 1968**



A mother and her diabetic child consult a public health nurse prior to the child entering school. Information about the child's condition should be entered on her school health record.

Responsibilities of...

The Child

The diabetic schoolchild, in all likelihood, has been trained to do daily urine tests to ensure that his diabetes is not "going out of control." These tests are vital in regulating diabetes. The child should also have been trained in the various aspects of governing his diabetes, recognizing the early symptoms of diabetic coma, or insulin reaction, and notifying such persons as teacher, parents, or even schoolmates of an approaching crisis. He should know the emergency procedures to ward off an insulin reaction or a diabetic coma. The child, therefore, is the key to the daily process of control. His knowledge of diets, daily urine tests, emergency procedures and whom to notify in case of impending emergency are vital in controlling diabetes.

The Parents

The parents' responsibilities involve such things as providing good medical care and notifying the school officials and teachers with whom their child comes in contact of his diabetic condition. This simple fact alone is often overlooked. Frequently the teacher's first knowledge that the child is a diabetic is when he suddenly has an insulin reaction or falls into a diabetic coma which under-

standably is quite a traumatic experience to an unsuspecting person.

The parents should also be actively involved in the daily meal planning for their child. Upon learning of the child's diabetic condition, the school lunchroom manager should be asked to furnish the parents with a copy of the planned school lunch menu at least one week in advance. The parents may then plan the child's lunch so that foods required for the prescribed diet may be sent from home when these cannot be provided by the school's food service program. The parents should also assist in training the personnel who will be involved in handling a diabetic emergency.

Parents should remember that their child is only one of many with whom the teacher becomes involved daily and therefore should not be overly demanding or attempt to frighten the teacher and school personnel. Facts, not emotional feelings, should be given to the teachers so that they may be able to quickly and properly handle any emergencies which may occur.

The Physician

The child's physician has the overall responsibility of outlining the procedure to be followed in order to maintain control of the child's diabetes. He establishes what the child should eat and the daily insulin dosage with respect to the child's schedule of school activities. He should be available for school personnel to consult and for training those persons designated to handle diabetic emergencies. The school officials should have his telephone number in case a diabetic emergency occurs at any time. Information involving any variation of the child's normal daily routine should be made available to the physician so he can adjust the diet and insulin requirements as may be necessary.

The Principal

The school principal should meet with the parents as soon as he learns of the diabetic condition of one of his students. If the child is old enough, he should also participate in the meeting.

During the meeting, the basic curriculum, and outline of the child's daily activities should be discussed and control procedures established by the physician.

One of the greatest problems now facing the diabetic child is that periods of physical activity frequently are scheduled before lunch period. In the case of the diabetic child, no worse time could be chosen. But some method should be established whereby the child may have a snack to carry him over to lunch period. At this time the principal should be informed what juvenile diabetes is and why it is important that the juvenile diabetic should be carefully watched. He should also be aware of proper emergency procedures to be followed.

It should be pointed out that outwardly the child should be treated no differently from any other student, but he should be more closely observed by the school principal. During a meeting the emergency procedures for the handling of the diabetic child should be established. The principal should personally be sure that the child's school health record reflects his condition and that routine and emergency procedures have been established to handle the child's problem while in school.

A wise parent informs the school principal and teacher that her child is a diabetic. This mother discusses with school personnel plans for the care of her child while in school.



The Teacher

The teachers who come in daily contact with the diabetic student find themselves directly responsible for detecting impending diabetic coma or insulin reaction. They also should supply information pertaining to this child to their fellow teachers and to the person responsible for maintaining the child's school health records. These records should include the easily measurable items, such as urine tests results and any changes in behavioral or dietary patterns.

The teacher should be well aware of the symptoms of impending emergency and the interpretations of urine tests which the child should be asked to conduct whenever the teacher suspects that a crisis may be developing. The urine tests results shown on page 230 are usually determined by either the Clinitest, Clinistix or Testape method. It is important that the teacher understands that the greater the deviation from normal color, the greater the chance of diabetic coma. Conversely, if a child runs routinely negative urine school tests for several days, the possibility of an insulin reaction is extremely great.

A good "rule of thumb" of interpreting a diabetic urine test is that a little sugar in the urine is not a danger signal for most diabetic children. The teacher should be aware that in rare instances, diabetic coma or insulin reaction may appear without prior symptoms.

If a diabetic student loses consciousness, it may be wise to treat the person as if he had an insulin reaction. If the child is in an insulin reaction and is treated as outlined in the Emergency Care Section of the chart on page 217, his recovery is usually quite rapid. If, however, the child is in a diabetic coma, the addition of more sugar to his system will not be immediately dangerous to his health or well being.

In any respect, the teacher is the person who should be responsible for initiating emergency procedures involving the school child.

CAUSES, SYMPTOMS and EMERGENCY PROCEDURES

Insulin Reaction	Diabetic Coma (Acidosis)
A. Caused by: Too much insulin Unusual amount of exercise Not eating enough food	A. Caused by: Too little insulin Not enough exercise Eating improperly Infections Emotional stress
B. Symptoms Excessive sweating Faintness (dizzy) Hunger Headache Trembling Impaired vision Pounding heart	B. Symptoms Weakness Abdominal pains Thirst Loss of appetite Generalized aches Dry mouth Nausea and/or vomiting
C. Emergency care Give carbohydrate Corn syrup, honey, maple syrup or light molasses Whole milk Orange juice Soft drink Candy bar Fudge 2-3 tablespoon sugar dissolved in ½ glass of water Notify physician Do not administer insulin	C. Emergency care **Call physician at once** Put to bed and keep warm Drink hot sugarless fluids if conscious and able to swallow Continue diet and medication Continue to test urine at regular intervals



The school health coordinator (left) and the mother discuss emergency procedures with the public health nurse. The nurse visits the school on a regular schedule and will check on the child's progress.

The Public Health Nurse or School Health Coordinator

If a public health nurse should be present during an emergency situation involving a diabetic child, the care would be greatly facilitated but her actual time in the school is limited. In the absence of a nurse, the school health coordinator, a school health aide, or teacher should be assigned the responsibility for maintaining up-to-date emergency information on diabetes, as well as other diseases which may be encountered by the school faculty. This information is not currently in the school emergency charts kept in the school's health rooms.

The public health nurse and/or school health coordinator should see that health records are maintained on all children, including the diabetic child. It is of vital importance that these records be kept as accurate and up-to-date as possible. Teachers in future years may need and use the information contained in these important records. Frequently, the school health records provide

the classroom teachers with clues to the underlying causes of behavioral or learning problems encountered with the students.

The school health coordinator, or someone in the school system, should have sufficient training in first aid to assist in training the teachers and other school personnel in emergency procedures. The diabetic child's teacher and other indicated personnel should have specific information necessary regarding the child's diet and exercise.

The public health nurses in the County Health Departments visit the schools in their assigned district on a regular schedule. In nurse-teacher conferences the health status of individual children are discussed and the nurse assists with plans for students who have specific problems which require additional attention by the teacher. Even though their time in the school is limited, the public health nurse works with the school health coordinator and teacher in obtaining and maintaining information for the care of a diabetic child in an emergency situation. She interprets any special instructions from the physician regarding the care of the child.

The School Lunchroom Manager

The school lunchroom manager can assist immeasurably in helping the child maintain adequate dietary control of diabetes. She should be asked to furnish the school lunch menus to the parents. This should include a complete listing of what will be served to students each day. If changes in these menus become necessary, the parents should be notified of the variations at least a day in advance so that they can provide the necessary supplements for the diabetic child's noon meal. Since the diabetic's diet is the cornerstone of good control, this information is vital.

The school lunchroom manager should also observe the child's eating habits without the child's knowledge. Information about extra foods eaten or foods not eaten should be furnished to the public health nurse or health coordinator, teacher and parents. If the child is not eating certain foods which may be required



Strenuous exercise (above and opposite page), if scheduled just before lunch, may require special snacks for diabetic children. Competitive sports, such as archery (below), may create problems for the juvenile diabetic. Several famous athletes have been diabetics.



on his diet, good control of his diabetic condition may be hampered. If at all possible, the school lunchroom manager should maintain a supply of emergency foods, such as sugar, milk or fruit juice, for insulin reaction in the lunchroom.

Emergency Procedures

In case an emergency does arise involving the diabetic child, the following procedures are recommended:



*The teacher should send one of the students to notify the principal, the public health nurse, if available, or health coordinator of the emergency.

*The teacher should have available in the classroom an emergency supply of sugar or fruit flavored hard candies.

*If the child appears to be having an insulin reaction, the teacher should administer the sweets at once and take the child to the school's health room where he should lie down.

*The principal or public health nurse should see that either sugar dissolved in water, milk or fruit juice is obtained from the school lunchroom.

*In the event that the child's reaction is favorable to the candy, he should be given one of the items brought from the school lunchroom to maintain his sugar balance until his next meal or snack, and the amount given should be subtracted from his next meal or snack. The total calories taken by the child as well as the sugar and starch calories are of great importance.

In the event that the emergency procedure used in an insulin reaction are favorable, the nurse or school health coordinator should stay with the child while the principal notifies the child's physician of the condition and appearance of the youngster. Any further instruction from the physician should be put into effect by the principal. The parents should also be informed of the child's condition and the instructions given by the physician, and any action taken.

Under no circumstances should the school principal attempt to administer insulin to the diabetic child in an emergency.

In the event that the emergency procedures have no effect on the child, diabetic acidosis or coma may be strongly suspected. If there is no favorable reaction from the child after five to 10 minutes, the physician should be notified at once and the child, if conscious, should be given some sugarless fluids, put to bed, and kept warm. Urine tests should be conducted, if possible, and the results charted so that the physician may have this information.

If the physician requests that the child be brought to his office or a hospital and the parent is not available, the policies

of the school for such emergencies should be followed without delay and the health coordinator or principal should take the child to the place directed.

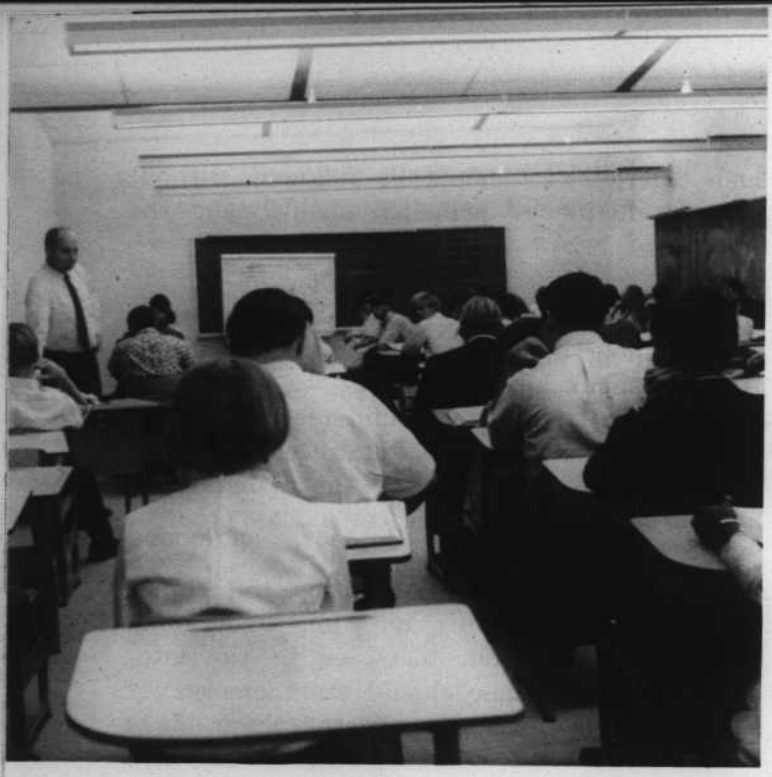
Diabetic emergencies involving insulin reaction usually occur more frequently when strenuous activities fall before a meal. At this time the child's blood sugar level will be at its lowest and the exercise may be enough to trigger an insulin reaction. Occasionally, if the activity period following a meal is canceled, thereby not allowing the normal amount of exercise by the diabetic student, the sugar is not burned and a diabetic coma may occur.

Diabetic comas, however, are usually caused by the child's over-eating (especially sweets), infections, or while undergoing emotional problems at home, classroom tests, or in the later years — romantic upsets. The teacher should start emergency care, the public health nurse or health coordinator should take over the care, and the principal should notify the parents and the physician of the emergency.

School Activities

Diabetic students, in general, usually find that school activities need not be curtailed in order to maintain good control. The knowledge gained in participating in various school activities usually teaches them a great deal about their ability to lead a fairly normal life. Classroom activities are primarily ones in which the child is usually sitting or physically inactive. These periods allow the teacher to observe the child's behavior without the child's knowledge.

Periods of activity, such as sports or physical education, are just the opposite. During activity periods the children are able to roam over a larger area and are not readily observed by the teacher. These periods of physical activity should be scheduled following the student's lunch period. If, however, the diabetic student is participating in sports or the curriculum falls before a lunch period, or after school, a snack should be made available for diabetic students.



Emotional problems created by classroom tests, for example, may cause a juvenile to go into a diabetic coma.

The idea that these students cannot participate in such vigorous activities as football, track, tennis or other sports involving great physical exertion is false. Many famous athletes from the United States have been diabetics. Recently two of Florida's outstanding athletes, one in the area of football and another in basketball, were diabetics. They won state and national acclaim for their athletic prowess and skill.

Not too many years ago the captain of the Davis Cup tennis team and an All-Southeastern Conference tennis player were diabetics. The programs in which these athletes, their physicians, parents and school personnel were involved provided the tennis stars with the necessary education on how to control their diabetic conditions and made it possible for them to rise to the highest level of their athletic profession.

One of these athletes knew that prior to vigorous physical activity, he had to eat something containing a great deal of sugar. His procedure, prior to each of his tennis matches, was to drink honey. No school personnel should be concerned about allowing a juvenile diabetic, who is maintaining good control of his condition and who has his physician's permission, to participate in competitive sports.

Occasionally field trips are scheduled for students in order to enlarge and enrich their educational experiences. When a field trip is scheduled, there is usually a change in the student's normal activity. The physician and parents should be aware of this change so that they may modify the student's insulin and diet schedule. If these field trips involve being away from school during the normal lunch period, the child should bring a lunch from home and be allowed to eat it at the time specified by his physician. If good control is to be maintained, it must be remembered that meals and snacks must be eaten at the time the physician specifies and not allowed to vary an hour or so in either direction. This is because the student's daily insulin injection is usually given prior to going to school. The parents are responsible for seeing that the child's diet contains the foods that are required. The school is responsible for seeing that the time for meals or snacks is considered and a schedule followed.

Dances, parties and other social activities, should be the responsibility of the student and the parents, primarily, as these do not normally occur during a routine school day. However, if these social activities take place where teachers are not present, the person in charge should be made aware of the child's condition and what to do in case of an emergency. The strict adherence to diets and activity is frequently considered by the diabetic child to be a hardship in his life. However, when the diabetics themselves assume a mature viewpoint toward their conditions, and they have been well trained by their physician, teachers and parents, the difficulties experienced are quite rare.



At the camp for diabetic children, a youngster is taught to measure food in order to get the right amount. The children also participate in sports, such as swimming, (opposite page), under the watchful eye of counselors.

The Camp for Diabetic Children

For the past six years the Florida Diabetes Association has conducted a summer camp for diabetic children between the ages of eight and 14 years. This is held at the Young Men's Christian Association camp, "Immokalee," near Keystone Heights during the last two weeks of August.

The YMCA staff of counselors is augmented by a professional staff of physicians, nurses, nutritionists and dietitians and laboratory technicians under the direction of a physician from the J. Hillis Miller Health Center, University of Florida.

Through this camp the juvenile diabetic learns that he is not alone in his condition. He meets other young diabetics who have problems similar to his and in many instances form lifetime friendships. The diabetic children learn that there is virtually no sport in which they cannot participate. Under the direction of the medical staff, the YMCA counselors teach such activities as archery, horseback riding, trampoline, track and field events,

swimming, boating and other games popular with children of this age group.

The medical and dietary staffs teach the children

*about diabetes in general and their conditions, specifically;

*how to conduct daily urine and blood sugar analysis and interpret these in terms of each camper's daily insulin requirement; and

*how to mentally compute their diets from a cafeteria type serving line.

Formal classes are scheduled during the camping session so that they do not become boring to the campers. One item which is stressed by all camp personnel is the counseling of the young diabetic campers in the potential problems involved when two diabetics marry. All children born of two diabetic parents will have diabetes — if they live long enough. By seeing others with similar conditions, the campers learn to adjust much more readily to future problems which may arise.

The Future of the Diabetic Child

At the present time the future outlook for the diabetic schoolchild is one of maintaining and following the control procedures learned in the home and school for the rest of his life. However, research in the field of juvenile diabetes is being carried



on in the United States. At sometime in the future, a cure may be found. The hopes of a diabetic child that a permanent cure may be found should not be allowed to become too great. Juvenile diabetes is the most difficult to control and it appears to be caused by the failure of the insulin-producing cells in the pancreas to function properly.

The State Board of Health and the County Health Departments will continue to be active in the education of the diabetic schoolchild toward the understanding of his condition and the management of diabetes. Where the family of the diabetic child is medically indigent, insulin is available at no charge through the County Health Departments.

A representative of the Diabetes Control Program of the State Board of Health serves as a consultant to the state's 14 lay diabetes societies and the diabetic children's camp.

Nutritionists are available through the County Health Departments to answer questions about diets for diabetes. They can provide diet counseling about prescribed diets for individuals when such diets are requested by a physician.

Children with diabetes may be found any place and at any time. Plans should be developed by the various school systems to provide emergency care for them. Diabetic children should be treated in the same way as other students. They should be taught to accept their responsibilities and to face the future with the same sense of anticipation as the so-called "normal" schoolchild.

For more information concerning juvenile diabetes contact your physician, the local lay diabetes society, your County Health Department or the State Board of Health's Diabetes Control Program.

COMPARISON OF JUVENILE AND ADULT FORMS OF DIABETES

	Juvenile Form	Adult Form
Type of onset	Rapid	Gradual
Symptoms	Excessive hunger, thirst and urination	Sometimes none
Age first occurs	Usually during early childhood or puberty	Most often over 35 years of age
Physical characteristics at onset	Undernourished or very slim	Usually overweight
Good control	More difficult to achieve	Easy if patient follows diet and physician's instructions
Stability	Poor — sugar levels in the blood usually undergo wide range of changes due to emotions, infections, exercise and insulin	Good — Sugar levels in the blood do not change as rapidly or vary as greatly
Coma	More frequent	Not too frequent if control is good
Insulin reaction	More frequent	Not too frequent if control is good
Diabetic complications	Usually not until diabetes has been present for at least five years	Frequent
Diabetic diet	Mandatory	Should be followed
Insulin	Required for all	Required for 20-30 percent
Oral medications	Usually ineffective	Usually effective in the older and mild diabetics

URINE TEST ANALYSIS

Urine Test Results					*Most Probable Emergency to Anticipate
Test Results	Clinitest	Clinistix	Testape	Benidicts	
Negative Trace	Blue Green	Pink	Yellow	Blue	Insulin Reaction
+	Lt. Green	Red-Purple	Lt. Green	Green	
++	Olive Green		Green	Yellow	Impending acidosis contact physician
+++	Tan	Purple	Blue	Orange	Diabetic coma, contact physician
++++	Orange	Dark Purple	Dark Blue	Brown	Diabetic coma, (Acidosis) contact physician

*All persons differ individually but these are "rules of thumb" which may be helpful

FLORIDA HEALTH NOTES



VOLUME 60—NO. 10
OCTOBER 1968

BETTER HEALTH
For Mother and Child

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(Cover photo) A public health nurse visits a mother in a Maternal and Infant Care Project Hospital and discusses the feeding of her newborn baby.





While preparing her infant for the pediatrician's examination, a mother (above) discusses his health with a public health nurse. A six-month - old - infant (left) squalls during an examination.

BETTER HEALTH...

For Mother and Child

A baby's cry echoes, lonely and plaintive, from a hovel beside a country road in the Florida pine woods. Nobody hears except the mother who lies in another bed in the shack, too sick to get up.

A toddler wanders aimlessly around in a migrant labor camp, a dog licking the sores on his legs. He has no father; his mother works in the fields all day.

In the inner city of a large metropolitan center, children wander from door to door, looking in garbage cans for scraps. Their mother searches vainly for a job and a husband who left one day and never came back.

Even before a child is born it is influenced by the environment in which its mother lives. What she eats, the type of work she does, and the diseases to which she is exposed will have an effect on the life and health of the baby.

At birth the baby's body may already be weak; he may be retarded, undernourished or abnormally developed because of the health habits of his mother or father, or both. If his mother does not have an adequate diet, or if from ignorance she neglects her body's needs, chances are great that her children will continue a tragic pattern of illness and dependency.

Why doesn't somebody do something to break the circle of ignorance, disease and poverty? Does no one care?

The State Board of Health and County Health Departments care very much and are doing something. Mothers and babies have been the center of broad public health programs in Florida for many years. In these programs, the health agencies work closely

with other governmental offices and voluntary organizations to better the health of mothers, infants and children.

Most County Health Departments have clinics to help this segment of the population. In addition, there are five Maternal and Infant Care Projects in Dade, Palm Beach, Broward and Orange Counties, and in a 13-county area surrounding the University of Florida. Dade County also has two Children and Youth Projects. A number of counties have special projects to assist migrants. There are centers which care for retarded children and premature babies.

This issue of **Florida Health Notes** will tell you of the development of the maternal and child health programs; of the scope of today's programs; about midwives, family planning, unwed mothers, migrants and special projects; and medical services provided to infants, preschoolers and schoolchildren.

An Early Beginning

The program for mothers and children did not develop spontaneously. Like many other public health programs, it developed gradually from a recognized need. The State Board of Health noted the desirability of such a program in July 1894 when **Health Notes** stated "special attention should be directed toward (child) bearing women." Over two decades later the first step was taken.

Nevertheless, mothers and children have been beneficiaries of public health measures since the organization of the State Board of Health. Epidemic prevention and malaria control, for example, were of high significance to persons of all ages. The concern with

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An expectant mother checks in with the receptionist at a County Health Department prenatal clinic.

the problem of hookworm infestation and its control reflected increasing attention to the health needs of children. Immunization and the provision of antitoxin for the treatment of diphtheria were important innovations in child health work.

The first firm step was taken in 1915 when the Legislature passed an act calling for the medical inspection of all schoolchildren. The State Health Officer said at the time, "This work of school inspection is exceedingly important and the Board is in hearty sympathy with the spirit and intent of the law but it deplores the fact that adequate financial provision was not made for properly putting it into effect."

In 1918 the Bureau of Child Welfare was fostered by the Florida Federation of Woman's Clubs and established within the State Board of Health. The goal of the Bureau was to register expectant



Prior to her examination by a physician, an expectant mother is interviewed by a public health nurse.

mothers and provide them with educational material and to encourage the construction of small maternity hospitals or separate maternity wards in large institutions.

Preschool clinics were developed and infant welfare stations established. Milk depots to distribute milk to indigent families were operated in connection with the stations in Tampa and Jacksonville through funds provided by women's clubs. Home visitation was planned and initiated with the aid of volunteers. Examination of school children was a major objective. Despite the obvious need and the support given by the State Board of Health and the women's clubs, funds for this work were cut off in the early 1920's during a drastic reduction in the Board's budget.

After a short time, work in maternal and child health was reactivated through the passage of a federal law which provided $5000 each year to those states which appropriated an equal amount of matching funds for this specific program. There were

limited funds from 1922 to 1932. Areas as large as one-third of the state were sometimes served by one nurse, and districts were reduced in size with the addition of more nurses.

Because of the shortage of personnel and the obstacle of distance, the Bureau of Child Welfare originated a series of letters to provide instruction for expectant mothers. During 1930, some 800 mothers were enrolled for this service. Those mothers who were expecting to use a physician for delivery received one series of letters; those using the services of a midwife received another. Still another series were sent out during the mothers' postpartum period.

Expansion of Services

Passage of the Federal Social Security Act of 1935 marked the expansion of maternal and child health programs and a broad program of activities developed gradually over the years. Education has been an important facet. Motion pictures on a wide variety of subjects concerning care of mothers and children were used when "movies" were not generally available. Neighborhood institutions brought together small groups for intimate discussion and instruction. With the assistance of the State Department of Education, the State Board of Health developed a school health program. In 1939, these two state agencies with the help of voluntary agencies, prepared **Bulletin 4-D, A Guide to Health Programs in Florida Schools.** This has been reviewed, revised and reprinted a number of times and has become one of Florida's most important guides to health instruction, health services and environmental health of schoolchildren.

During World War Two, an emergency program was created to provide medical and hospital care for dependents of men in the lower four pay grades of the Armed Forces. A state plan for hospital care was developed; funds came from the Children's Bureau; and the State Board of Health set up a complex program involving physicians, hospitals and patients. Despite the pressures of this program, the limited staff continued efforts to improve facilities

and care for mothers and children. Incubators for premature infants were distributed to counties, and members of the Bureau participated in the state's first nutritional survey among schoolchildren.

The post World War Two period was a history of projects:

* postgraduate training programs for nurses and physicians;

* an annual obstetric-pediatric seminar for physicians, nurses and public health workers of Florida, Georgia, South Carolina, Alabama, and more recently Mississippi and Tennessee;

* a teacher-training project in health whereby teachers spend three weeks observing the health facilities in the community and the services available through the County Health Departments;

* a premature demonstration center in Miami to reduce the high rate of infant deaths due to premature births;

* a Developmental Evaluation Clinic in Dade County, and more recently, the Tampa Diagnostic and Evaluation Clinic, to obtain a better understanding of retarded children, and evolve effective procedures to meet their problems; and

* migrant health projects, with funds originally from the Children's Bureau and now from the U. S. Public Health Service, to determine medical and health needs, and provide services to migrant families.

Care for Expectant Mothers

Maternity services are provided to low income women in most of the County Health Departments. During 1967, a total of 16,891 expectant mothers was seen as new patients in maternity clinics throughout the state. Public health nurses try to find expectant mothers early in their pregnancies and encourage them to seek medical services early — either through private physicians or the public health clinics. Some of the patients come of their own ac-

cord. Others are referred by private physicians, midwives, public health nurses, social workers, and friends and relatives.

Public health nurses provide health supervision to patients throughout the maternity cycle, seeing them in their home and in the County Health Department clinics. Services include a complete physical examination by a physician with all the necessary laboratory work being done. The public health nurse keeps a record of the patient's weight, blood pressure readings, symptoms reported by the patient, and any other pertinent information. Guidance is given in helping the patient make plans for her delivery, either by a physician or a midwife.

In many counties, public health nurses conduct maternity classes; both prospective parents are encouraged to attend the sessions. The course includes information on diet, personal hygiene, exercise and rest, proper clothing for mother and new baby, family planning and care of the baby. Demonstrations are given on infant feeding, formula making, bathing the baby, and observing the infant for any probable deviation from the normal. A doll may be used for the bath and health appraisal, but a live baby is more effective.

The Problem of Illegitimacy

In 1967 over 13,700 babies were born out of wedlock to Florida mothers. Of this number more than 5400 were born to girls ages 18 and under, and nearly one-half of this figure to children 16 years and under. The number of unwed mothers is increasing each year. Girls from all economic levels are among the above number. This presents a problem to health and school officials. Those who qualify receive medical care from the County Health Departments. Girls who drop out of school frequently begin a cycle of continuing pregnancies, and sometimes wind up with their families as public wards. Some girls, by the time they are 17, are in their fourth or fifth pregnancies. A few counties are making special arrangements for pregnant schoolgirls to continue their education during their pregnancy, and then return to regular school after their babies are born.

Hospitals in some counties provide a "low cost" hospitalization plan whereby the deliveries are made and, if all goes well, the mother and baby are discharged within 24 to 48 hours. The public health nurse visits the patient as soon as possible after she received notice of the delivery. She may make another visit to the mother and infant in the second week, or sooner, if she feels that all is not going well with either of them. Follow-up visits are made to all patients who are delivered by midwives, and those patients of private physicians who request this service. Mothers are urged by the nurses to have a postpartum checkup, either by a private physician or at a County Health Department clinic four to six weeks after the birth. At this time the active follow-up is discontinued. Family planning services are then offered if the mother wishes.

A total of 10,304 mothers received postpartum examinations in public health clinics in 1967. If a mother does not return for a checkup, the public health nurse visits her in the home and helps her to plan for the medical examination.

If the mother has a diet problem during her pregnancy, or if she needs help in feeding her child, the public health nurse may call in a public health nutritionist. These consultants advise the mother on the proper selection and preparation of foods for herself and her family. They also help her to make the best use of items provided in the commodity food program. If a mother is breast feeding her infant, the nutritionists may give advice on the mother's own diet.

Midwifery — An Old Practice

It is only in recent years that so many Florida babies have been born in hospitals. Ninety-seven of every 100 births occured in hospitals in 1967. Prior to the present time, the home was the scene of most births and the majority of mothers were attended by midwives who passed down their practice to their daughters. In 1931 some 3000 persons who called themselves midwives were attending births in Florida. About 500 were reported to have withdrawn voluntarily from pratice when registration was started by the State Board of Health. Today there are about 148 licensed midwives in Florida, most of whom have been practicing for many years.

Mrs. H is a midwife in a North Central Florida county. She has been an institution in her rural area for a number of years and she has delivered second and third generations in a family. Although the practice is dying out, the need still exists in some areas. In one Florida county, more than 50 per cent of all births during 1967 were delivered by midwives.

Today a midwife is allowed to attend only normal deliveries. Before a pregnant woman can be accepted as a patient she must have a complete evaluation by a physician and have received written permission to be delivered by the midwife. The work of a midwife is basic. She uses no medicines or anesthetics. She knows the signs of normalcy so well that anything out of the ordinary warns her to seek medical assistance immediately.

If a midwife wishes to go into practice, the physicians and public health nurses in her area must determine that there is a need for her services. Then she must undergo three weeks of observation in a maternity home operated by a midwife in Sanford where she can observe and assist with deliveries, help in the prenatal clinics of the County Health Department, and make home visits with the public health nurse.

A public health nurse keeps a close watch on the weight of a pregnant woman.



Five Maternal and Infant Care Projects

In an effort to reduce maternal, prenatal, neonatal and infant prematurity and mortality, and reduce the number of retardations and malformations, five of the nation's 52 Maternal and Infant Care Projects have been set up in Florida. Those in Dade, Broward, Palm Beach and Orange Counties are in metropolitan areas. The project in North Central Florida, including Alachua, Baker, Bradford, Clay, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Levy,



A private physician, who assists in a public health prenatal clinic, examines the ears of an expectant mother . . .

Marion, Suwannee and Union Counties, is located in a rural area which has small hospitals, few physicians, and many midwives. Maternity and infant care, and frequency of hospitalization, in general, have been in this section substandard — partly because of the inadequate number of prenatal clinics. There are great distances between communities and hospitals; and there is a lack of coverage under the state-county Hospital Service for the Indigent Program.



. . . and measures the abdomen of another patient with a pelvimeter.

These five federally-supported projects have "core" teams of physicians, nurses, social workers and nutritionists to plan and make policies. The additional clinic teams also include laboratory technicians and clerk-typists.

The teams work to

* provide those low income maternity patients who are designated as "high risk" with comprehensive medical and surgical treatment, hospitalization and delivery under the supervision of qualified obstetricians;

* provide infants with well-child services;

* provide medical and surgical treatment to those infants of low income families who are born with or develop an illness or handicap through the first year of life;

* provide public health nurses and other County Health Department personnel and public and private physicians with oppor-

tunities for expert consultation, field training and education in obstetrics, pediatrics, nutrition, and social aspects of maternal and infant care; and

* improve the quality of maternal and infant care.

All expectant mothers and infants who come from low income families are eligible for services in the Maternal and Infant Care clinics. Hospitalization is provided to those mothers who, in the opinion of the team, have complications during their pregnancy or are expecting difficult deliveries.

An expectant mother is defined as a "high risk" patient if she falls into one or more of the following categories, and she

* is suffering from toxemias of pregnancy, hemorrhage, dystocia;

* has concurrent medical conditions, such as anemia, malnutrition, hypertension, diabetes, infections or Rh incompatibility;

* has had pregnancies in rapid sequence, multiple pregnancies, threatened premature of labor;

* is under 16 or over 41 years of age;

* is unmarried;

* has a history of premature births or miscarriages and previous births of infants with cerebral palsy;

* has metabolic disorders; or

* has other conditions which in the opinion of the physician are sufficient to be a threat to mother and/or child.

An infant is considered to be a "high risk" patient if he has one or more of the following problems: born prematurely; weighs less than five pounds; has Rh incompatibility, birth injury or prolonged anoxia; has a serious illness during the first year of life; or other conditions considered to be a threat to his life or to his normal mental or physical development.

A high risk obstetric patient is admitted to the hospital cooperating with the project for delivery. Other hospitals in the project area may be used in case of emergency. If the mother is delivered



A practical nurse checks the pulse of a "high risk" patient who had her baby in a Maternal and Infant Care Project hospital.

of a normal baby, the infant may not be considered a project patient, unless complications develop.

A mother is examined six weeks after the delivery and may be hospitalized if she is not progressing normally. Follow-up of the patient is done by the public health nurse. Family planning is explained and offered and the mother, if she desires, is given a choice of contraceptives, including intrauterine devices. Routine immunizations are provided the family as well as health supervision, health education of the mother and referral to other agencies, if needed.

Expectant mothers are also given cervical cytology smears for the detection of possible cancer; dental services, supplied by private dentists, for dental examination and treatment of significant dental problems that might affect the health of the mother or baby; transportation by volunteer, public conveyance or ambulance; homemaker service to provide someone to stay with other children while the mother is away at the clinic or in the hospital;

and day care or foster home care, either by a neighbor or volunteer worker.

Child Spacing Programs

Child spacing is becoming one of the fastest growing programs of preventive medicine in Florida. From the first time a mother visits a prenatal clinic, she is given every opportunity to secure family planning information.

The number of indigent mothers who are using the child spacing services provided by the County Health Department increased by 50 per cent in one year. During 1967, more than 30,000 mothers received medical assistance in limiting further pregnancies, primarily with oral contraceptives and uterine devices. A large number of clinics were established in both small and large counties. Six of the larger counties serve one-half of the 206,799 potential users of child spacing services in the state. Potential users are women of child-bearing age who are from low income families.

Information and materials concerning family planning is available to all welfare recipients of child-bearing age and other medically indigent families. Pap smears are taken for the detection of cervical cancer, and the women are provided with pills or fitted with uterine devices.

Well-Baby Conferences

As has been noted, the infant in the hovel, the migrant child, and the children looking for scraps have been the concern of the State Board of Health and County Health Departments for many years. Health appraisals by public health nurses were made of some 19,500 children during 1967. Where medical services are needed, the nurses refer the children to physicians. Children who are crippled or have some other physical defect, or an emotional problem may be referred to the Crippled Children's Commission or Child Guidance Clinics. Many children are referred to the State Department of Public Welfare.

Developmental Skills Record

Following are skills a child develops as he grows:

Newborn—sucking reflex, grasp (tight fist) search or rooting reflex

One month—placed on abdomen can raise slightly
tearless cry

Three months—eyes follow objects (seldom past midline)
supports head and upper trunk on forearms when on abdomen

Four months—simulates swimming when on abdomen
reaches for desired objects
coos, chuckles and laughs outloud
examines hands

Six months—sits with support or leans forward on hands
takes objects with one hand when offered
bangs spoon on table
vocalizes vowel sounds
pats mirror image

Nine months—creeps
vocalizes "mama," "dada" and one other word
drinks from cup - spills
messy eating (beginning to help mother)

12 months—walks with or without support
holds objects well
throws or rolls ball
cooperative with dressing
begins to show off

18 months—walks well, seldom falls
walks up stairs with hand held
seats self in chair
feeds self—spills some
may be toilet trained during day
enjoys putting objects in and out of other objects

Two years—removes some of clothing
turns pages of book singly
speaks three word sentences
refers to self by name
balky at times

Three years—helps dress and undress (simple garments)
carries food without spilling
may stay dry at night
rides tricycle
likes to run simple errands

The obstetrician watches over the child before it is born. After delivery, the physician examines the infant for abnormalities in the physical structure, checks the heart, respiratory and lung functions, and looks for evidence that the child is not adjusting promptly to life.

However, once the baby is born, the pediatrician takes over. He would like to see each child regularly until he is 12 years of age, or even through adolescence, but this rarely happens. Some parents will bring their infant to the well-baby clinic until he is one year old. Then, until he is ready for school, the child has little health supervision. Parents often do not see the value of regular examinations and may bring the child to the clinic only when he is sick.

A baby is usually seen by the public health nurse during the first and second weeks of life, at six weeks, and at six and 12 months of age. In many clinics the public health nurse does the preliminary questioning of the mother, weighs and measures the child and plots the growth curve; checks the infant's eating habits and progress in motor and mental development. The physician checks the child's eyes, ears, nose, throat, abdomen, heart and lungs, and looks for any signs of slow physical or mental development. He will give advice on feeding and may ask the nutritionist to work with the mother. Immunizations are usually started during the first two months of life.

The Test for PKU

Phenylketonuria (PKU) is a condition which is inherited from both parents and occurs once in every 10,000 to 15,000 births. There is nothing abnormal in the baby's appearance or behavior at birth, but if the condition is not diagnosed soon after birth and a special diet given, chances are that mental retardation will occur.

Babies with PKU, like all other babies, need certain substances for normal growth. One of them is phenylalanine, which is present in many food, such as milk, meat, eggs, peas, nuts and regular



Four to six weeks after birth, an infant is brought to the public health clinic for a health appraisal. The public health nurse interviews the mother before the baby is seen by the pediatrician.

flour. Most people have an enzyme (a digestive substance), which can break down phenylalanine into other substances, but this is lacking in a baby with PKU. So the phenylalanine, accumulating in the blood, may interfere with normal brain development and cause mental retardation.

A "Guthrie" test made on the baby's blood from a heel prick, about 24 hours after the first breast milk or formula feeding, will often show that the phenylalanine is already suspiciously "high" if the baby has PKU. In that case the doctor will want to repeat the test promptly, and will do other tests, too, if the second one is abnormal. He may also want to test the urine, or a "wet" diaper, as "phenyl ketones" appear in the urine of persons with PKU — that is how the disease got its name. These give the urine a "musty" smell.

When the diagnosis is made, the baby will be put on a special low phenylalanine formula. As other foods are added, they will be selected to give enough phenylalanine for normal growth but not so

Children and Youth Projects

Two projects serving children and youth of Dade County have been funded by federal money to bring health services to eligible children. The children receive immunizations, medical services, dental care, correction of defects, and physical, social and vocational rehabilitation for those with permanent disabilities. Services are available from project hospitals and private physicians on a 24-hour basis. One project serves children up to six years of age; the second, children and youth up to 21 years. These children come from lower socioeconomic families who are unable to provide proper medical care.

much that it accumulates in the body and causes damage. Repeated testing will be necessary to be sure the diet is right. A special diet is usually continued for several years. Nutritionists are available through County Health Departments to give diet counseling.

During 1967 the State Board of Health laboratories in Jacksonville and Miami did 56,978 Guthrie tests. Private laboratories, usually in hospitals, also performed the Guthrie or other tests for PKU. Nurses and doctors in County Health Departments frequently assist in getting tests done on babies who might otherwise be missed.

Medical Services for Schoolchildren

In 1967 there were over 1.5 million children in Florida between the ages of five and 17 years. The majority of these are in the public schools of the state and of these

* 396,372 were given vision screenings;
* 193,259 were given hearing screenings;
* 63,779 were given physical examinations; and
* 45,493 were given dental examinations.

The State Department of Education requires that children entering school for the first time have prior health appraisals and

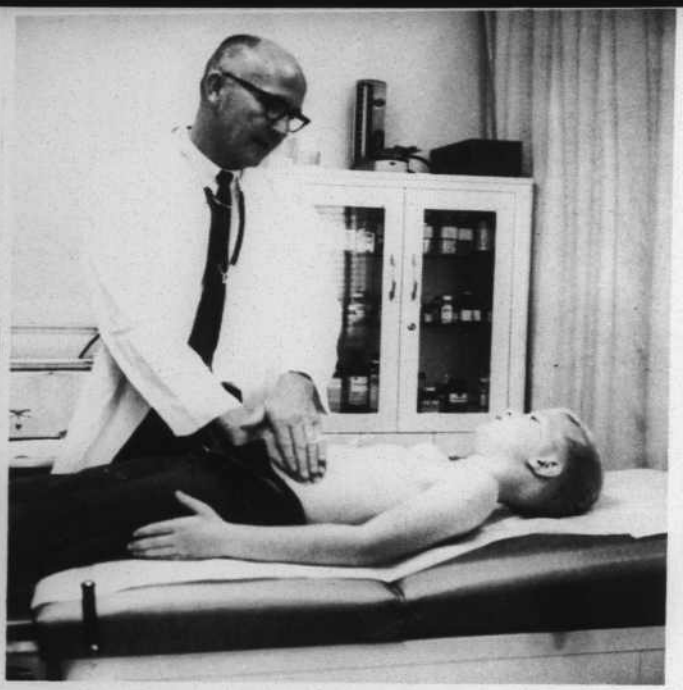
immunizations. The best type of examination, given by a physician, is the unhurried and thorough kind in which the child removes all of his clothes so that any skin infections or other defects will not be missed. Many County Health Departments and private physicians conduct pre-school examinations throughout the summer.

The State Board of Health and County Health Departments also recommend that schoolchildren in the fourth, seventh and 10th grades, and those students participating in physical education, athletics and driver training be given physical examinations. This information is useful to guidance counselors, health coordinators, classroom teachers, public health nurses and parents.

A school health record is usually kept on every child by the elementary schoolteacher. If she sees a child who is sleepy, blinks excessively, talks in a monotone, or has some other problem, the teacher will probably discuss the situation with the public health nurse, who in turn, may visit the parents and refer the child to a private physician or health agency.



A wide-eyed infant has his respiratory system checked by the pediatrician.



The State Board of Health suggests frequent physical examinations for children during their school years. A physician checks the abdomen of an elementary schoolchild (left); inspects the mouth of a junior high school student (far right); and listens to the heart of a high school football player (center).

School Health Program

Three major areas—environment, health services and health education—are part of the school health program. These phases involve the skills and knowledge of school administrators, teachers, school health coordinators, state and county school lunch supervisors, County Health Department personnel—engineers, nurses, sanitarians, physicians and dentists—and parents.

The environment of healthful school living includes

* the school site, buildings, playground, sewage disposal, water supply and safety;

* attention to adequate lighting, heating and ventilation;

* standards set by the State Board of Health and inspections made by sanitarians to see that the schools meet these standards;

* the maintaining and correcting of regulations by the school administration;





* the proper disposal of garbage and wastewater, insect and rodent control; and

* good housekeeping.

Health instruction is carried on through examples set by proper sanitation and upkeep of buildings and grounds; by classroom instruction and field trips; by nutritious lunches and educational materials on foods; and audio-visual aids and printed materials from the State Board of Health.

The school health services provide for care of emergency illness or injury, prevention and control of communicable diseases, and prevention of accidents.

Responsibility of the County Health Department

The State Board of Health and its partners, the County Health Departments, have legal responsibilities for some aspects of the school health program. It is considered part of the total community health picture. County health officers, public health nurses, sanitarians, health educators and other personnel cooperate with the school principal.

The **county health officer** interprets public health policy to school officials and determines how it fits into the plans for a school health program. He assigns responsibility for the school health work to his staff and approves procedures and activities carried on by the County Health Department. He also maintains a proper balance between school health and other facets of the community health program.

The **public health nurse** confers with the teachers, principals, parents and students concerning the health problems and needs of groups and the individual child. She provides scientific information to school staffs on health conditions; assists in the promotion of immunization programs and health appraisals; helps in the development of plans for first aid services and emergencies which may occur; and makes follow-up visits and referrals of pupils with specific health problems.

The **sanitarian** may assist in the selection of the school site. He relates health department regulations concerning construction and remodeling of buildings; advises school officials on safe water supply, lighting, waste disposal, proper storage and sanitary preparation of foods; and engages in other activities which promote and encourage good health among schoolchildren.

The **public health educator** is responsible for sharing in planning and developing of a public health educational program which will help the students to learn more about health and to relate to



A public health dentist makes a dental examination of elementary schoolchildren and some high school students from low income families.

their own problems. He also serves as a resource person to the teacher and cooperates with the school health coordinator.

The **public health dentist** gives dental treatment to low-income pre-school and elementary schoolchildren, and some high school students. He is engaged in promoting and carrying out a dental health educational program in cooperation with civic groups, and school, dental and medical organizations.

Clinic Visits — Pleasant Experiences

People fear things they don't understand. If they are afraid to go to the doctor, maybe it is because they don't understand why things are done to them—such as drawing blood or taking x-rays. Such experiences may give them an unpleasant experience and they may refuse to visit the clinic or doctor's office again.

Some times public health workers are so rushed or brusque that they offend some sensitive patients—although they really don't mean to do so.

Public health workers should try to make the visit to the clinic or physician a pleasant experience. Expectant mothers and young babies need to see the doctor at regular intervals. If the mother has a rewarding visit, if she receives the attention that she needs, if she receives reassurance about her baby she is more likely to return for her next appointment. Parents should try to make their children's visits to the clinics, or physician's or dentist's office as pleasant as possible.

The State Board of Health and County Health Departments are continuously fighting disease and ignorance in health matters. Many people fail to avail themselves of the services offered by the state and county agencies because they do not know about the services and/or they have a mistrust of health people.

In order to combat ignorance and to assist people, some County Health Departments have initiated night clinics for those people who work in the daytime. Because these are usually general clinics, the working mother and father can visit the clinic and receive the medical attention they need. The children can receive immunizations and medical services and the health picture of the entire family can be ascertained.

Immunizations

Many physicians believe that DPT (3-in-1 shot for diphtheria, pertussis, whooping cough), and tetanus should be given at two months of age, with boosters given at 16 months and six years. The oral polio trivalent vaccine should be given at two and four months, with boosters at 16 months. Measles immunizations should be administered at about one year and followed in two or three months by smallpox vaccination. A combination of diphtheria-tetanus immunization should begin at 10 years of age with a booster every four years. Smallpox revaccination should be done every five years. A skin test for tuberculosis is given shortly after the measles vaccine.

FLORIDA HEALTH NOTES



VOLUME 60—NO. 11

NOVEMBER 1968

VD... the Story of Barbara

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(Cover photo) Venereal disease is spread only through intimate sexual contact.



State Board of Health officials in Jacksonville receive word of a spreading syphilis outbreak and promptly alert investigators in the affected cities.

VD...
the Story of Barbara

It's a usual Monday morning in the State Board of Health's Venereal Disease Control Office in Jacksonville. In contrast to the lazy movements outside in the summery heat, the air conditioned office is bustling with controlled activity. A young woman concentrates on coding and filing confidential reports; a health educator is on the phone with the Department of Education in Tallahassee, creating a VD educational manual for the schools; a young man, who looks more like an actor than a special investigator, is plotting the course of an epidemic-in-progress on an area map.

9:10 A.M. — The phone rings. The New York City VD Control Office has uncovered a case of syphilis. A man, the office says, spent his vacation in several Florida cities and may have infected a number of people there. They begin reading off what information they have about his contacts. . .

No. 3 — white female, blonde hair, blue eyes, first name Barbara, last name unknown, about 21 years old, cute figure, drives dark green convertible, frequents beach at Ft. Lauderdale and U — Bar, lives near highway.

9:16 A.M. — The chief investigator pin points the localities of the contacts and issues orders to notify his health investigators in those areas.

Jackson—Investigator

Larry Jackson is one of those hard-working people who eventually may become president of a company. His hobbies are tennis and photography. Primarily, he likes to work. After completing

This story and the names of persons used are fictitious. The situations depicted in the accompanying photographs are also fictitious and were posed by models. However, the facts concerning venereal disease are true.



Investigator's problem: find an unknown girl in a city of 100,000 who is suspected of having syphilis.

his bachelor's degree in business under the GI Bill, he tried his hand at business but after two years he became increasingly restless and began to suspect there was more to life than just making money.

He and his wife decided he should give up his career and go to work for the government. Within a year he became a specialist in the venereal disease control program as a health investigator. Employed by the State Board of Health, he now operates out of a County Health Department in South Florida.

9:32 A.M.—Jackson hangs up the phone and sorts out the information the VD Control Office in Jacksonville has given him. Not much to go on — but there usually isn't. A blonde 21-year-old named Barbara, exposed to syphilis by a tourist from New York. In a city of 100,000, that could be any of a few thousand girls.

FLORIDA HEALTH NOTES

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VOLUME 60—NO. 11 **NOVEMBER 1968**

Without a license number, the green convertible is little help. "Lives near a highway . . . no help!" Having her first name is a break. But the best clue is the bar and beach information.

10:15 A.M. — Jackson parks his car half a block from the U — Bar. It fronts on Lauderdale Beach. He notices five or six green cars parked along the street and jots down their tag numbers. Inside the bar, Jackson realizes he has made a mistake. Youths with crew cuts mingle with these wearing Nehru shirts and beads. He's the only one with a sports coat and an attache case. As his eyes adjust to the cool, dark interior of the bar, he spots a cute blonde sitting at the bar, and decides to chance it despite his conspicuous clothes. He takes a stool next to her, looks up in surprise and says, "Oh! Hi, Barbara!"

No response. Odds are, she's not Barbara. Most people instinctively respond to their own names.

"Say, Barbara, I'd like to talk to you a moment."

Cold look. "I'm not Barbara."

The investigation takes knowledge, skill and plenty of footwork. . .



Jackson moves down the counter and flags the bartender. "Look," he says, "Has Barbara been in lately? You know, cute little blonde about 21. Cute figure."

The bartender shakes his head disgustedly. "Mister, I wouldn't know Barbara from Eve. Who can keep up with these kids? They come . . . they go."

"Well, I figure you ought to know her; she's in here all the time. Cute little blonde kid."

"Cute little blonde?" He shakes his head again. "There's gotta be more cute little blondes in here every day than there are in the movies. Listen, why doncha come back tonight. I'm just the day man." He moves off down the bar.

Strike One!

Jackson goes to the phone booth and dials the Department of Motor Vehicles. The tag numbers check out, but none is registered to a girl named Barbara.

Strike Two!

Barbara—The Quarry

Barbara Adams pours on the coal during most of the year at school, and during the summer she likes to take it easy. But she's been assigned a number of chores. Her parents call it "contributing to the family!" Her folks, she thinks, are dear sweet people, but they're funny in things like that. For months on end they get so tied up in their own affairs they don't even know she's alive. Last Thanksgiving, when all the other kids were home on vacation, she sat in the school dorm because her folks were off in Nassau having a party.

At times, as if to counteract the neglect, they get a big kick of "togetherness," and Barbara is expected to do everything with them. The whole thing's a bore, she thinks, and the "togetherness" is as much strain in its own way as the neglect. At least with the neglect she didn't have to do the chores.

Worst thing, she used to have such beautiful hands. But since she's been working around the house, doing dishes and stuff this last month, her hands have been broken out in all these little spots and sores.



. . . but sooner or later it pays off.

10:30 A.M. — Dressed in her bikini and toting a beach bag, Barbara leaves her house and walks to "Petey," the green car named after her boyfriend. She flicks on the radio and tears off for the beach.

The Pursuit—Jackson

Larry Jackson struck out in the bar, but he can come back and try again tonight — and tomorrow — and the next day, and the next, if necessary. But for now his best lead is the beach.

Back in his car, he slips off his coat and tie, shoes and socks, and rolls up his pants. The many moods of Florida are gold mines for the amateur photographer, and Jackson carries his camera equipment with him everywhere. He selects a powerful zoom lens and attaches it to his camera.

10:39 A.M. — Through the telescopic lens, Jackson spots a group of young people down the beach. One is a blonde, so he wanders over in their direction.

"Hi ya," he says to a boy near the group. "Barbara been down today?"

The boy squints up at him. "Yeah. She went up with Sherri for a drink. She'll be back in a minute." He points to a blonde and another girl. "Here they come now."

Jackson shields his eyes against the sun. The blonde matches the description. He turns to the boy. "Yep, all that blonde hair, you can't miss her."

The boy looks at him suspiciously, "The blonde is Sherri. Barbara is the redhead."

STRIKE THREE! But it's only the first inning.

1:40 P.M. — Another section of the beach. The sun is fierce now. A trickle of sweat rolls into the corner of Jackson's eye, stinging. His zoom lens sweeps past another group of kids on the beach — the fifteenth? Thirtieth? The lens moves past a couple of guys talking; a girl reclining on the sand, arms outstretched; on to a young couple. . . .

Jackson stops, lowers his camera. The back of his mind says there was something wrong with that last group. Carefully, he focuses in on the couple. Then back to the reclining girl. With the zoom lens, he brings her closer and closer, until the only thing in the view finder is the palm of her hand. Rash! Small, healing sores that resemble the rash of secondary syphilis.

While he looks she stretches and stands up. He can see her lips moving as she speaks to the kids around her, then she shakes out her beach towel and starts walking away. She is too far off for Jackson to get to her before she reaches the street, so he



The investigator tells Barbara that she may have been exposed to a dangerous and contagious disease.

watches through the telescopic lens. She slides into the driver's seat of a green convertible. As it pulls away, Jackson zeros in on the license tag.

1:46 P.M. — Back in his car, Jackson carefully records the information: Subject located at Lauderdale Beach . . . has rash on hands . . . license tag number is.

Success—Jackson

3:15 P.M. — Jackson has checked the license number with the Department of Motor Vehicles and found that the car is registered to Barbara Adams who lives at 1422 High Springs Boulevard. As he approaches the house, he sees the same green car parked in the driveway.

3:16 P.M. — When he rings the door bell, a young blonde girl answers. He shows his identification card and says, "Miss Adams I'm Mr. Jackson from the health department, and I'd like to speak with you for just a moment on a matter concerning your health."

"What are you talking about," the blonde replies.

Jackson tells her that one of her friends has exposed her to a communicable infection and that his visit is confidential. He adds that she may go to her own physician, or she may visit the County Health Department clinic where she will receive a free treatment.

"I'll make an appointment for you at 8 o'clock tomorrow morning," Jackson says. "Please bring this card with you to the clinic."

At the Clinic—The Next Day

7:58 A.M. — Barbara glances nervously at the modern brick building as she walks from the green convertible. Entering the double glass doors, she is greeted by a friendly receptionist who directs her to a clerk. The clerk types out a confidential record and serology slip for a blood test.

While sitting in the waiting room, Barbara picks up a pamphlet from a chair. It describes a disease called syphilis . . . "spread by sexual contact, syphilis first appears as a small painless sore approximately 21 days after exposure. The sore usually appears at the point of entry into the body, usually on the genitalia."

The pamphlet then says the secondary signs may appear in the form of a rash two to 10 weeks later. Barbara looks at the sores on her hands . . . Could it be?

8:11 A.M. — The nurse ushers Barbara into the doctor's office. She sits quitely as the doctor explains that she may have been exposed to a communicable disease, syphilis, and there was a good chance she may have the disease.

8:20 A.M. — A public health nurse draws a blood sample from her arm and then assists the doctor in a through examination. Following the examination, a diagnosis is made, the nurse administers penicillin, which is the complete treatment for syphilis, or gonorrhea, another very common venereal disease.

8:45 A.M. — Barbara asks the doctor, "If the treatment is so easy, why is there so much VD?"

The physician replies, "As with you, Miss Adams, most people don't recognize the symptoms of VD and don't seek medical assistance until it's too late, when they are crippled, blind or insane. Mr. Jackson, the investigator who first contacted you, will discuss this with you."

. . . and arranges for her to have an examination at the County Health Department. She may wish to go to her private physician.





At the County Health Department clinic, Barbara is examined, diagnosed and treated and

8:51 A.M. — Barbara is directed to a small, private office where Larry Jackson greets her. "Sit down, Miss Adams, I'll discuss your problem with you and answer any questions you might have. Everything you tell us will be held in strictest confidence."

For a while Barbara listens politely as Jackson tells her that syphilis is a serious disease and if it is not treated it may bring about insanity, blindness or death. It is contracted through intimate sexual relations with someone who already has the disease. When he begins to ask personal questions about her life, a shade of irritation grows in her eyes.

Finally, she interrupts him. "Listen, Mr. Jackson, or whatever your name is, I think you've got the wrong girl. I've never been involved in any of this sex stuff you're hinting at — I come from a good family and my parents wouldn't allow it. I . . ."

Jackson swings around, looking her squarely in the eyes. She's finally beginning to talk. The barrier is breaking. "Barbara, you've got syphilis!"

"I could have caught it from a toilet seat." she says, the words rushing out, "I've been running with a pretty fast group of kids lately and one of the girls might have I mean some of the



. . . interviewed. One link in the chain is broken. But there are other people involved. They become the interest of the investigator. . .

girls play around a lot, and" her voice trails off, then comes back small, unsure, and miserable. "Maybe you want one of them."

Jackson slowly shakes his head. "No! Barbara, **you** are the one with syphilis." He turns back to his desk and picks up his pencil. "Now, tell me about those friends of yours."

Visibly, the girl's resistance crumbles. She looks down at her hands a moment, then says softly, sadly. "They aren't really friends of mine — or they weren't at first. It was just a . . . a sort of fling."

It had all begun on Easter weekend, Barbara hadn't meant any harm, she just wanted to see what the big college weekend was like. She had met a couple of boys on the beach, they had been drinking, and before she knew it she was deeply involved with several of them. Two were from Lauderdale, and a third, whose name was Frank, was from somewhere in New York. They had introduced her to the fast crowd around the beach.

9:50 A.M. — Jackson finishes writing down all the information she has given him, then swings around to look her again in the eyes. "This isn't all the people you've been intimate with, Barbara."

"Yes, it is. I swear!"

"Now level with me. How about Pete?" Jackson says.

"I... I... How did you know about him?" she asks.

"I got the name from your car. It's painted on it." Jackson adds. "Is he your boy friend?"

"Yes . . . I . . ." she looks unhappily at her hands in her lap. "I just hoped he wouldn't have to know."

"He won't know anything about you from us," Jackson said.

9:55 A.M. — Satisfied that Barbara has named all of the men she had been intimate with in the past six months, Jackson ushers her from the office. On the way she tugs at his coat sleeve and whispers, "Tell me," she asks, "How did you ever locate me, anyway?"

Jackson smiles at her, "It was easy."

Barbara is discharged from the clinic, her part of the problem solved. She would not suffer the tragic effects of syphilis. But for Jackson the job was just beginning again. . . . Now, he has a new list and he would start. with Pete.

. . . who begins the search again.









Each of the State Board of Health's regional laboratories (upper left) does hundreds of blood tests for syphilis a day. Treatment is administered to a patient in one of the County Health Department's venereal disease clinics (lower left). An educational consultant discusses the venereal disease problem on a community television station (center). A VD epidemiologic clerk processes named venereal disease contacts in the Central Registry (upper right). Investigators (lower right) receive training in the use and operation of microscopes.




DAY





History of VD Control in Florida

There are many theories as to the origin of syphilis, but its history is filled with conflicting facts and accusations. The French say it is a Spanish disease; the Spanish say it is French. We do know the name "syphilis" was given to the disease about 1530 when Giro Lamo Fracastoro dedicated a Latin poem to a shepherd boy named Syphilus, upon whom Apollo inflicted the "French disease" for having insulted him.

According to history, about 1500 A.D., the disease spread across Europe, Asia and Africa, killing millions of people and crippling millions more. Although there are many colorful stories as to how syphilis was introduced into this country, there is no official documentation. Until recent decades, venereal diseases were incurable and considered to be an age-old curse. They were the major causes of insanity, blindness, crippling and heart disease. As a public health problem, syphilis continues as a major concern of the State Board of Health.

The president of the American Medical Association, in 1876, stated, "Now what I propose in regard to syphilis, is simply to give to the already existing boards of health powers that they now possess over cholera, smallpox and yellow fever. They now have the power to ferret out smallpox and send patients to the hospital for treatment and they should have the same power of searching out the abode of syphilis and sending its victims to the hospital for treatment."

With the outbreak of World War One, the infections of troops became a matter of record. Because of the potential epidemics in the civilian population, as well as the military, the Congress appropriated a million dollars for aid to states for organizing new venereal disease control. Established venereal disease clinics were already operating in Pensacola, Key West, Gainesville and Jacksonville. After the appropriations, additional clinics were established in Tampa, Arcadia and Miami.

In 1920 the State Board of Health revealed that more cases of venereal disease were reported by physicians than the total of the next three causes of illness. But the next decade saw little action in the program because of the lack of funds.

With the assistance of federal money, a Division of Venereal Disease Control was created in the State Board of Health in 1938. The objectives of the division were to: coordinate venereal disease control work of the County Health Departments and volunteer organizations; improve clinics; enlist the cooperation of private physicians; supply free drugs for the treatment of indigent patients; and promote a public educational program.

However, venereal diseases remained a problem due to the lack of trained personnel, adequate facilities and effective drugs. Treatment of gonorrhea and syphilis was prolonged, painful and unsatisfactory.

Closing of the Red Light Districts

In 1940, Dr. Wilson T. Sowder, who later became State Health Officer, was assigned to Pensacola by the U. S. Public Health Service to establish a venereal disease control program. Because Pensacola's "red light" district was the source of so much disease, the Secretary of the Navy was concerned about the problem of venereal disease control in the city. Dr. Sowder used his authority to placard the houses of prostitution with signs: "SYPHILIS —

A Disease Detective

"An epidemiologist is that creature who combines a reasonable scepticism and curiosity, with a passion for the truth and has the ability to recognize the truth when it looks him in the face, and with all this has the initiative to apply sufficent sole leather to the job to get the facts. If we are to control syphilis, we must go to work instead of talking about it. There is just one conclusion: Every case of syphilis should have a hard-boiled, determined and bold epidemiological investigation."

W. L. Munson, 1932

KEEP OUT" and "GONORRHEA — KEEP OUT." This was effective. The red light district closed and the disease rate dropped by half the following month. During the next five years most of the red light districts throughout Florida were eliminated.

During World War Two, the Armed Forces established training centers in Florida and the problem of transient population entering the state became too much for the State Board of Health to handle because of the lack of funds, manpower and equipment. Selective Service data published in 1941 revealed that Florida ranked first in the nation for the number of selectees who were rejected for military service due to positive blood tests for syphilis. The Federal Government recognized this problem and provided support to bring about better control procedures. The State Board of Health felt that "if the State of Florida will exert all its efforts toward the control of venereal disease, by the end of the war this record of accomplishments will be so good that there will be no danger of the venereal disease situation having a black mark against it."

Prior to the advent of penicillin and other antibiotics, hospitalization of people with infectious gonorrhea and syphilis was provided for by the State Board of Health in Rapid Treatment Centers. Beginning in 1943, centers were opened at Ocala, Wakulla, Jacksonville, and later at Deer Lake, Pensacola and Melbourne. These centers operated successfully through 1952 when there was a changeover to out-patient prevention and control centers. During the era of the Rapid Treatment Centers, 58,643 persons were admitted and treated in Florida.

Travelers Spread Syphilis

The large numbers of transient persons entering and leaving Florida contribute to the spread of syphilis. In 1967, the VD Control Program received a total of 1130 requests for epidemiologic investigations from 41 states and six foreign countries. During the same period, the Program relayed information about 1404 cases to 41 states and six countries. All of this information concerned travelers who had brought the disease into the state or who were exposed, or suspected of being exposed, while in Florida.



The State Board of Health operated Rapid Treatment Centers from 1943 to 1952 in the fight against venereal disease.

Penicillin—The Miracle Drug

The introduction of penicillin in 1946 to control venereal disease revolutionized treatment of syphilis and gonorrhea and changed the scope of the program. Despite the ease and effectiveness of treating venereal disease with penicillin, a change of moral standards, public apathy about venereal disease, and promiscuity have led to an increase in the disease. This increase in the number of cases was noted in 1959 and it continued upward through 1965. Since that year, there has been an 18 per cent decrease in the infectious stages. However, Florida's rate per 100,000 population continues to be one of the highest in the nation.

Florida was not alone in the increased reporting of infectious syphilis. A similar national trend developed during the late 1950s.

A task force studied the problem in 1961 and made the following recommendations:

* an intensive effort be made to enlist private physicians and medical societies and associations in the control effort;

* a program be established whereby laboratories processing blood tests for syphilis report names of patients with positive specimens to health departments;

* interview-investigation services be enlarged to cover all infectious syphilis cases and that every person be interviewed and reinterviewed for sex contacts, acquaintances and associates;

* an educational program be developed for professional workers as well as for the public;

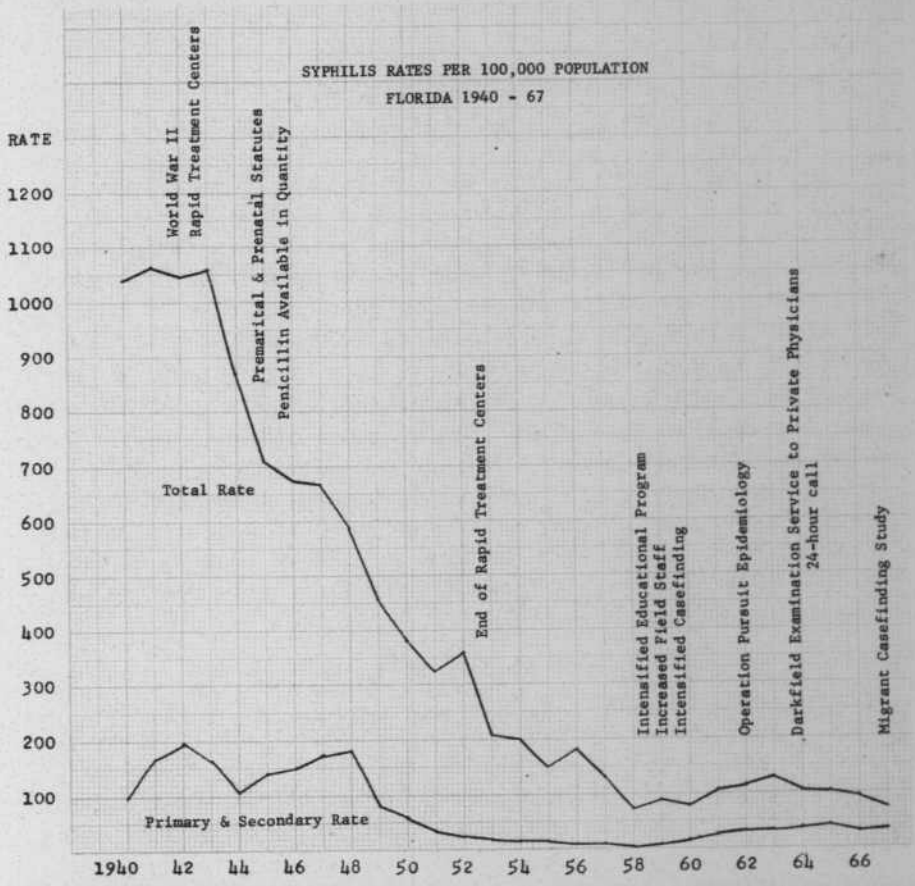
* research in the immunology of syphilis, therapy and laboratory procedures be continued, and research into the sexual behavior of adolescents and young adults be expanded; and

* federal, state and local governments continue to support the program when the reported infectious syphilis morbidity curve begins to drop.

Florida's High Rate of VD

Syphilis — There was in 1967 a total of 1933 cases of infectious syphilis reported in Florida. However according to recent reports, the infectious syphilis trend appears to be leveling off. Within the next few years, with the maintenance of manpower and finances, this downward trend may continue.

The disease is caused by a minute corkscrew-like spirochete that invades the body through exposure to an infected person during sexual relations. It is a systemic disease, traveling through the blood stream to all parts of the body and attacking vital organs During 10 to 90 days following exposure, a sore (chancre) may appear at the point of infection. This is painless and will disappear in time. A rash may appear on the palms of the hands, soles of the feet, or other parts of the body three to six weeks following the disappearance of the chancre.



The number of venereal disease cases in Florida was influenced by events since World War Two. The introduction of penicillin was the biggest single event to cause a drop in the number of cases.

These signs will disappear and a person may feel fine for years and then become blind, crippled or insane. Syphilis can be cured but the damages which occur during the late stages can never be repaired.

Gonorrhea — continues to be a problem as indicated by the large number of cases reported in 1967 (12,563). Since the VD Control efforts are predominately on syphilis, gonorrhea epidemiology has been limited to special requests by private physicians and the Armed Forces. Gonorrhea control is not given priority because diagnostic measures, particularly in females are ineffective, and the disease is increasingly resistant to penicillin. A blood

Operation Nightmare

It was high noon on a fine summer weekend. Three VD investigators were 10 miles out off Miami Beach in the Gulf Stream fishing. One of them had just hooked a beautiful marlin when "Beep! Beep! Beep!"—the pageboy system sounded. One of the investigators pushed the button on the instrument and heard the message "go to Jackson Hospital Emergency Room." The men cut the marlin loose and headed back for shore.

At the Emergency Room, the investigator found a young female who had come to the hospital complaining of abdominal pains. The alert resident physician had detected an apparent syphilitic lesion during his examination. It was darkfield positive (showed the spirochete that causes syphilis), and the patient was diagnosed, treated and interviewed on the spot. Fortunately, calls at inopportune times are infrequent but the VD investigators in Dade and Broward Counties are on call around the clock.

test is badly needed but one has not yet been developed that will detect gonorrhea.

The disease does not travel through the blood stream but may damage the sex glands and cause sterilization in both men and women. It can be easily detected in men by a burning sensation in the sex parts and a discharge. In women, gonorrhea can spread unnoticed through the reproductive organs. It can cause blindness in newborn babies if drops are not put in their eyes. If ignored, it can lead to heart disease and arthritis.

Other Venereal Diseases (chancroid, granuloma inguinale and lympogranuloma venereum) do not constitute a serious public health problem because of the relatively few cases (only 122) reported in 1967. However, the patients receive equal consideration as those with syphilis and gonorrhea.

Role of Epidemiology (Operation Pursuit)

As described in the story of Barbara, the process of syphilis epidemiology includes the interviewing of an infected patient for sex contacts and other persons suspected of having the disease. Also, a clinical examination is made of such persons to determine whether he has syphilis.

Every syphilis case is the result of intimate sex contact with another syphilitic person. Although the details of sexual encounter would appear difficult to elicit, Florida's trained staff of professional VD interviewers-investigators succeed in obtaining at least one or more sex contacts in 96 per cent of the persons interviewed. The average number of sex contacts per patient interviewed is approximately four.

Because persons who have syphilis usually are sexually promiscuous and associate with similar persons, it is easy to see how syphilis can spread faster than individual cases can be found and treated. Therefore, treatment of a syphilis patient without examining his or her sex contacts contributes very little to the control of syphilis. Each contact should be located, examined and treated.

Treatment may be administered on either of two bases: treatment of the diagnosed individual, or preventive treatment of all persons who have been exposed to infectious syphilis.

The Role of the Laboratory

State Board of Health laboratories provide major support to the VD Control Program by doing syphilis serology and other VD tests. In addition, 352 private and hospital laboratories perform syphilis serology testing.

A VD investigator calls on a Florida physician to seek his cooperation in the venereal disease control program.



Last year some 1.6 million tests for syphilis were processed. A total of 44,816 was reactive, of which 93 per cent were reported to the County Health Departments for follow-up. The balance was lost to follow-up because of non-reporting. Since syphilis is a serious community health problem, routine blood testing is an effective means for reducing it.

Role of the Private Physician

In the days of the Rapid Treatment Center, a majority of the known cases of syphilis were available to health authorities for treatment and follow-up. Unfortunately little effort was made to provide special follow-up services for private physicians. Public health officials assumed that penicillin, because it was inexpensive and easy to obtain, would eliminate syphilis in a short period of time. Because VD workers were concentrating on clinic cases, private cases were allowed to spread. Public health workers soon realized that if syphilis was to be reduced the private physicians would have to play a major responsibility in the control effort.

Today, Florida's public health enjoys a cooperative program with private medicine. In the past decade there has been a significant rise in the rate of infectious cases reported by private physicians. This is due to intensive personal visitation to doctors by VD Control Program staff members.

An outgrowth of the visitation program has been the "Darkfield Microscopy Service" which detects the organism of syphilis **(Treponema pallidum)** under a microscope. Training in this technique is provided to all VD investigators and they, in turn, offer this service to private physicians, hospitals and other medical institutions on a 24-hour call basis. Miami and Ft. Lauderdale provide this service through a radio-telephone paging service.

Role of the Educator

For many years the State Board of Health and the State Department of Education have been concerned with providing education in preventable diseases and health problems, including venereal disease, for Florida's schoolchildren. The increase of venereal disease among young people in the lower socioeconomic groups shows there is a need for more education in this field. The State Board



A health educator gives a talk on venereal disease. Many professional and civic organizations have endorsed the VD educational program of the State Board of Health.

of Health, through the County Health Departments, offers technical assistance to county school systems to properly train teachers in the basic venereal disease education. Teachers, selected by local school officials, are trained by state and county health agency staff members. Prior to classroom instruction, community support and endorsements of the communicable disease course is required.

The VD program field staff seeks the participation of agencies and individuals. The State Department of Education, Florida Medical Association, state and county Parent-Teacher Association, Pilot's International, Florida Medical Auxiliary, State Junior Chamber of Commerce all have passed resolutions in favor of VD education in the schools and to the general public.

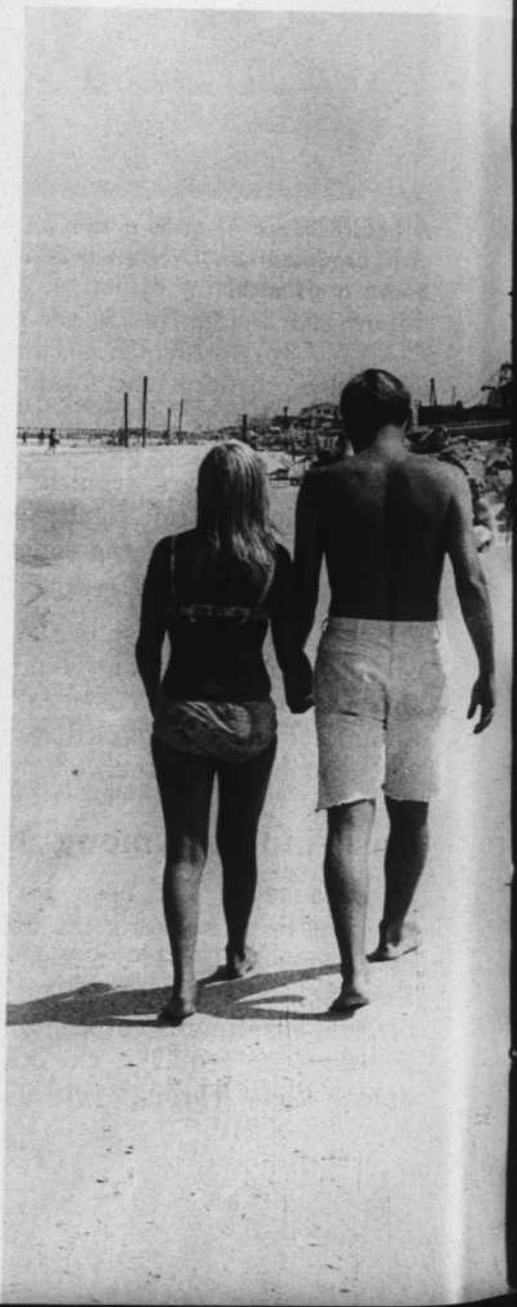
Casefinding Among Migrants

Because of the need for close epidemologic surveillance of migrant farm workers, the State Board of Health developed a special project in 1967 entitled "The Migrant Syphilis Casefinding Demonstration Project." This project was designed to step up effective casefinding procedures among migrants and to find a solution for reducing the known high rate of venereal disease among them. Through this special program, the VD staff was able

to find many early syphilis cases that probably wouldn't have been found. Mass blood testing (approximately 19,000 blood specimens were taken) proved effective and current indications are that syphilis among migrants is decreasing.

Many Barbaras and Petes

Each year thousands of young people, such as Barbara and Pete, are victims of venereal disease through chains of infections. One case represents a potential epidemic. The majority of primary and secondary syphilis reported each year in Florida involve those persons in the 15 to 24 age group. The tragic aspects of venereal disease is that many young people become infected and remain undetected. Thus they are endangering themselves to future lives of possible blindness, insanity, crippling, or even death.



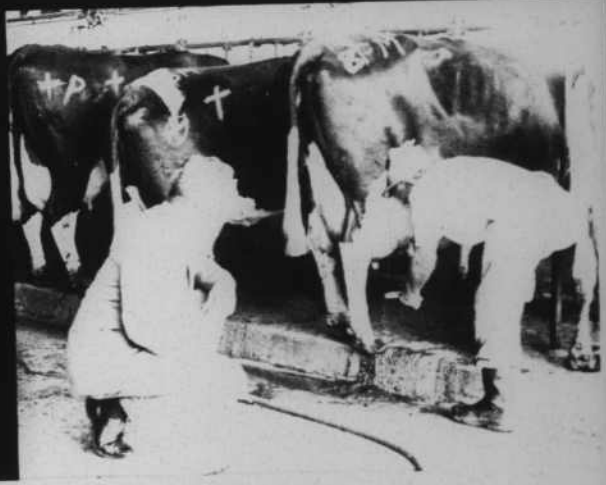
Many people try to cure themselves through home remedies. No salves, medications, potions or charms will cure the pox, clap, bad blood, strain or any other name by which venereal disease is known. Only a physician can decide whether Barbara has syphilis. And only through treatment by a physician can she be cured. And only by cooperation between health workers and citizens of Florida can the venereal diseases be controlled and eventually eradicated.

FLORIDA HEALTH NOTES









OLUME 60—NO. 12
ECEMBER 1968

The State Board of Health . . .

Protecting the Consumer



(Cover photos) State Board of Health inspectors, sanitarians and engineers protect the consumer in many ways. Bedding inspectors (top left) visit a mattress manufacturing plant; a drug inspector (top right) checks dates on drugs in a pharmacy; a sanitary engineer (bottom left) samples the water of an oyster-growing bed; and a milk inspector (bottom right) watches the milking procedure in a dairy barn.

When the Florida housewife decorates for the Christmas holidays, she remembers from news stories, literature, television spot announcements and films put out by the State Board of Health not to overload the electrical circuits in her home.

The State Board of Health...

Protecting the Consumer

"It's going to be a busy day!" Mrs. James Stewart, Florida housewife, muttered to herself as she headed her new car out of the driveway and turned toward the supermarket.

Not only did she have to buy some oysters and other foods for dinner, but she intended to buy some milk at the dairy store,
purchase a new mattress for the master bedroom,
pick up some cosmetics for her daughter,
have a prescription filled for her husband, and
meet a friend for lunch at a downtown restaurant.

In the afternoon she had to come home and
decorate the Christmas tree,
await the delivery of a new color television set,
clean the sliding glass doors to the patio, and
talk to the pest control operator who was coming to give an estimate on treating for wood-infesting insects.

Not only was she going to have a busy day. There were other things to worry her. Yesterday her aunt had been taken to the hospital in an ambulance following an automobile accident. Her aunt was feeling much better today.

An uncle was to have diagnostic tests in a hospital in another Florida city.

Although Mrs. Stewart was going to have a busy day, it would be made easier by the work of the State Board of Health and County Health Departments. The products she would purchase, some of the services she would receive, and various aspects of the environment of her home were either better or safer because of programs carried on by the State Board of Health and its partners in health work, the County Health Departments.

Mrs. Stewart may just assume that the shellfish and milk she buys are pure and uncontaminated. The automobile she drives has safety features of which she is unaware. The drinking water which comes from the faucets in her home is taken as a matter of course. Safety precautions which she practices are the direct results of educational and information programs carried on by the State Board of Health.

Like Mrs. Stewart, every Floridian and visitor to our state is a consumer. The state and federal governments have such agencies as the State Board of Health, the State Board of Conservation, the U. S. Public Health Service, the Consumer Protection and Environmental Health Administration (which has within it the Federal Food and Drug Administration), the state and federal departments of agriculture and other organizations which are working to protect Mrs. Stewart. Many voluntary organizations and individuals are also concerned with safeguards of the public health. Many industries are interested in guarding the public from unscrupulous practices and frequently set up their own methods of protecting the consumer.

This issue of **Florida Health Notes** will take you behind the scenes of the State Board of Health and show what is being done

FLORIDA HEALTH NOTES

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to protect your health in such areas as bedding, foods, drugs and cosmetics and drinking water; in such services as ambulances, pest control and radiation protection; and through education and information.

The History of Consumer Protection

Until the latter part of the 19th Century, food production and processing were carried on in the home. Other items, such as bedding, were made by the family or in small shops. Home remedies were used in place of today's medicines and drugs. By the turn of the century, food processing moved from the home kitchen and the village shop to large factories, processing plants and canneries.

The housewife could no longer be sure that the products for her family's table were pure and wholesome. Commercial food production in the early part of the century was in its infancy. Conditions in many plants were primitive by modern standards.

When journalists of the 1900's wrote about the meat, food and drug industries, the public was shocked by disclosures of filthy, fraudulent, or dangerous products—food dosed with chemical preservatives, candy colored with poisonous dyes, narcotic-soothing syrups for babies, and the tragic consequences which followed people's belief in the cure-all promises of many "patent" medicines.

Congress passed the first "pure" food and drug law in 1906. The law was completely rewritten and modernized in 1938. The Federal Food, Drug and Cosmetic Act ranks today as a law of great social and economic importance because it regulates the processing of food and drugs—the two most vital consumer products. A major prohibition of the 1938 Act was the introduction or delivery of any adulterated or misbranded food, drug or cosmetic across state lines.

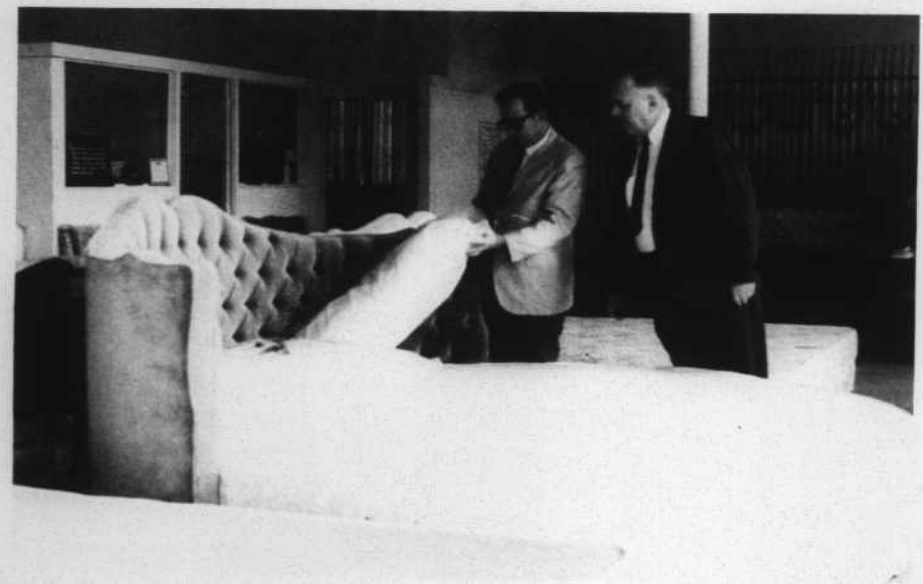
Florida's laws which protect the consumer evolved through the years and now parallel the federal law in many respects. The State Board of Health has the legal responsibility for protecting the public's health. This takes in more than controlling communicable and chronic diseases, caring for elderly persons, mothers, babies and children, and supervising the environment—important as these

programs are. The State Board of Health also is concerned with sanitary practices relating to processing, packaging and handling of foods and drugs sold in Florida; the protection of the public from fraudulent practices of companies who provide health services; the safeguards placed on materials which could be dangerous or disease-ridden; and the education of the public in safety and good health practices. Because of the continual expanison of technology and science, Florida's laws are upgraded from time to time.

Protecting Your Sleep—The Florida Bedding Laws

When Mrs. Stewart goes to buy a mattress for the master bedroom of her home, she should READ the LAW LABEL. This label must be sewn into every article of bedding sold in Florida. It is called "law label" to distinguish it from the "manufacturer's label." In this way, the housewife will know what she is buying and that it is not made of material that could be detrimental to the health of her family.

Bedding inspectors make a spot inspection of law labels on bedding in a furniture store.



This was not always so. Prior to the passage of the Florida Bedding Law in 1953, there were no controls of any kind on bedding made in the state or shipped into Florida from other states. Most states had laws that were rigidly enforced within their own boundaries but bedding was being shipped into Florida that was inferior to that sold in areas where there were strict laws. Only one nationally advertised line of bedding was made in Florida in 1953. Today there are a number of nationally-known manufacturers of bedding with factories in the state.

The State Board of Health is legally responsible for enforcing the laws pertaining to such items as pillows, cushions, comforters, mattress pads, infant pads, bolsters, mattresses, box springs, upholstered spring beds, sofa beds, studio couches, chaise lounges, and any item used for sleeping purposes that has filling material.

The law is concerned with items which you cannot open and examine yourself and which contain hidden filling materials. It also requires that each item carry a law label correctly identifying the concealed filling material and that such material must be clean. No article which has been used by an individual with an infectious or contagious disease can be sold.

State Board of Health inspectors, who are based strategically throughout the state, regularly inspect retail stores and renovators, distributors and manufacturers of bedding. They find that most manufacturers and sellers of such materials are honest. However, they can and do actually cut open articles and they have found such items as bits of paper, rags, straw, trash and floor sweepings, nails, tacks, pieces of wire, second-hand shredded rags, used cotton felt, wood shavings and excelsior glamorously described as "woodwool," odorous fowl skin adhering to unclean and poorly processed feathers, materials containing high bacteria count, and ammonia and urea from body secretions indicating that the material was second hand, or had sustained prior use.

Where the inspector suspects the contents of an article of bedding is not what it is certified to be on the law label, he may remove the article from the store and take it to the State Board of Health laboratory where samples of the contents are tested. If they are

not the same as described on the label, the local inspector is advised and the article is restricted from sale until the correct label is attached. If the material is found to be dangerous to the health of a person, the sale of the article is forbidden in Florida.

In 1967, a total of 9254 items was found in violation of the law. Of these, 8874 items were corrected and placed back in the stores for sale; and 380 items were condemned or returned to the manufacturers.

READ THE LABEL

Mrs. Stewart should read the law label attached to any article she buys which contains hidden filling material. The labels are plainly attached to the outside cover and accurately describe the material.

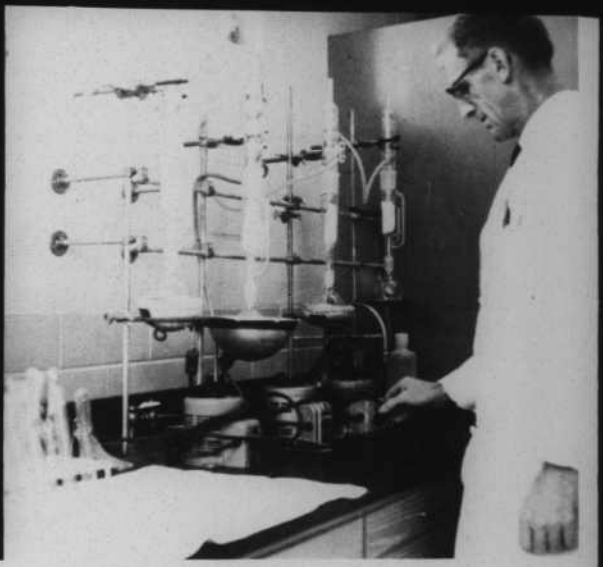
Tips on the Buying and Care of Bedding

When buying bedding, springs or mattress, select for utility, not merely for looks. Select bedding large enough for comfort and proper rest; select firm support for growing children and do not relegate broken-down beds or mattresses to your children.

Turn a mattress over one week and turn it end for end the next week. Turn boxsprings end for end twice a year. Clean mattress and boxsprings once a month with a soft brush or vacuum cleaner attachment. Never use a rug-beater on pillows or mattress. Shake pillows and form with hands when reshaping. Let pillows and mattress air before making bed. Sun pillows and mattresses frequently to refresh and sanitize. Do not sun feather and down pillows excessively — heat dries out the natural oils.

Avoid room arrangements which place your bedding in direct sunlight. Leave six inches of space between walls and bedding as cotton attracts moisture in walls and causes unpleasant odors.





A chemist opens a mattress (left) to determine the nature of its hidden material. He then tests samples to ascertain the composition of the material, the amount of bacteria in it, and whether it is new or used material.

* A white label indicates that the material is all new.

* A yellow label indicates that the hidden filling material is made of "used materials" and the contents are described; or there is an indication that the contents are unknown and the entire article has been previously used.

* A green label indicates that the article of bedding is being renovated or reprocessed for an owner and is not for sale. The filling material is new unless otherwised specifically agreed to by the owner.

If the hidden filling material comes from an animal or fowl, it must be sterilized and such notification placed upon the label. No bedding articles or filling materials are allowed to be placed on the market if it is filthy, soiled, unsanitary, water damaged, or contains bugs or vermin.

Safe Oysters

Mrs. Stewart may not know that the oysters she bought for her family's dinner were produced under the sanitary supervision of health department sanitarians who use standards set by the State Board of Health and the U. S. Public Health Service.

An oyster can draw 100 gallons of water a day through its gills. As the water passes through, microscopic plant life and small particles in the water are trapped, and passed into the mouth of the oyster. Any pollution—and bacteria—in the water is thus absorbed by the oyster. When eaten raw, the oyster passes this bacteria on to the consumer, and, if the bacteria are a disease-producing type, the person may become ill.

In the mid-1920's there were outbreaks of typhoid fever and hepatitis due to sewage-contaminated oysters. The federal government, in order to protect the public, was asked by the industry to develop a uniform code of standards. In 1937, steps were taken to establish a shellfish program in Florida. The responsibility for developing and operating the program was given to the State Board of Health. Today, the U. S. Public Health Service reviews the sanitation programs of Florida and other oyster-producing states, and distributes lists of names of all shellfish dealers, shuckers, packers, repackers, and shippers who are certified by the states.

The State Board of Health has the responsibility of approving oyster-growing waters, inspecting and controlling the operations of shell stock shippers, shucker-packers, repackers and reshippers. The health of persons who handle shellfish is also watched. Since oysters are extremely perishable, the County Health Departments have the responsibility of checking the retail stores to make sure that shellfish are properly refrigerated and from certified sources.

Since approximately 93 per cent of Florida oysters are produced in Northwest Florida, the State Board of Health operates a marine laboratory in Apalachicola to keep check on the waters and test shellfish samples from the many shucking houses and packing plants in the area.

When Buying Shellfish

* Each package of approved shellfish product can easily be identified. The container should have a certification number embossed or stamped on it to indicate the packer or repacker (Example: Fla-872). If the product comes from another state, the package should also carry the name of the state and certification number.

* The shellfish should be under refrigeration — covered in ice or below the cold line.

* The label should contain the type of product and quantity.

* The lid of the container should be tamper-proof.

* The shellfish must be sold in the original container in which they are packed by the manufacturer. The dipping of oysters from one container to another is not permitted.

* If the housewife suspects that she has purchased unapproved shellfish from her local food store, she should contact her County Health Department.

County Health Department sanitarians routinely inspect the shucking houses. If a high bacteria count is found by a public health laboratory, the sanitarian investigates the operations of the house and, if necessary, requires a general cleanup—or other action. Further laboratory tests are made, and if the oysters continue to show a high bacteria count, the plant may be closed down until the operations can be reviewed. If the oysters from a certain shucking house are suspected of being contaminated, they may be condemned and destroyed.

Sanitarians make periodical surveys of waters and coastline in oyster-growing areas. The State Board of Health maintains surveillance of sewage treatment plants to insure effluents discharged are not endangering the oyster-growing waters. The effects of



A milk inspector discusses a raw milk storage tank with a dairy worker and . . .

winds, tidal currents, stream flow, temperatures and rainfall on the oyster bed must all be considered in evaluating water areas. The sewage discharged from pleasure boats using the waters is also of concern.

In 1967, a total of 219 shellfish shucking, packing, repacking and reshipping and shellstock plants was certified by the State Board of Health. Forty-six crabmeat and scallop plants were also certified during the year under the shellfish program.

Protecting Milk

Whether Mrs. Stewart has milk delivered to her home or whether she buys it at the dairy store, she can purchase this milk with confidence for her family. A cooperative effort of the State Board of Health, the County Health Departments and the State Department of Agriculture assures her that the milk and dairy products are being routinely examined for the presence of radioactive materials, pesticides and antibiotics. Sanitarians regularly collect samples of raw milk and finished dairy products for analyzing. Fortunately, Florida now has a law requiring that all milk sold to consumers be subject to an effective pasteurizing process, further assuring its safety.

Public health laboratories analyze milk to determine the safety of the products. Some of the tests reveal the wholesomeness of the milk. These look for various kinds of bacteria, the presence of antibiotics, and/or leucoctyes (white blood cells which show up the abnormal milk usually coming from diseased cows' udders). Other tests are run to determine the butterfat and solid-not-fat contents of the milk, which indicate the nutritional value and to ascertain the specific gravity, which show if water has been added.



. . . checks the operation of a bottling machine.

County Health Department sanitarians make inspections and gather samples of milk products throughout the entire milk production process—from the cows to the consumer. Generally, one visit a month is made to each milk producer. Extra visits are made when conditions indicate that additional inspections are necessary. Most processing plants in the state are visited approximately once a week.

The sanitarian, when he visits the dairy, is concerned with the health of the milk-producing cows, condition of the cows' udders,

cleanliness of the milking practice, cleanliness and sanitizing of utensils, proper cooling and storing of raw milk, proper waste disposal, safe water supply, sewage disposal, and control of insects and vermin.

When he inspects the milk processing plant, the sanitarian is concerned with the proper condition of all equipment used to process raw milk, correct methods of cleaning and sanitizing the equipment, the receiving and storing of raw milk until it is pasteurized, and the packaging, refrigerating and storing of the finished products. During the delivery, the sanitarian is concerned with the temperature of the refrigerated delivery trucks, and the retail stores' storage space.

Protection of Food Stores and Restaurants

When Mrs. Stewart buys food at her supermarket or joins her friend for lunch in her favorite restaurant, she is protected by food



A dairy case thermometer is checked by the milk inspector. To make sure the milk temperature is kept at a constant level, these thermometers are inspected regularly by County Health Department sanitarians and dairy companies.



A sanitarian inspects a food processing plant—in this case a pizza parlor. More than 174,000 visits were made to food places by County Health Department sanitarians during 1967.

sanitation programs of the State Board of Health and County Health Departments.

In 1967, sanitarians from County Health Departments supervised 7269 food outlets (groceries and meat markets); 21,083 eating and drinking establishments; 1064 food processing plants; 137 abattoirs; 168 shellfish and crustacea plants; and 1090 other various kinds of food establishments. This required 174,788 visits to the food places during the year.

In order to protect the health of the public, sanitarians check the cleanliness of all facilities, storerooms, refrigerators, shelves, floors and equipment. All food places are checked to make sure that

When Buying Milk

According to Florida law, pasteurized milk must be stored at 45 degrees Fahrenheit until it is delivered to the consumer.

*** Milk should be delivered to the home in a refrigerated dairy truck and carried to the house in a refrigerated container.**

*** If the family is not at home at the time of delivery, the dairy company may supply the housewife with an insulated case in which the milk will be placed. These containers will keep the milk cool up to four hours and will protect it from contamination by dogs or other animals.**

*** Milk must be kept under refrigeration in supermarkets, dairy stores, milk vending machines and other places until purchased by the consumer.**

*** Both County Health Department sanitarians and milk companies regularly check the temperature levels of these refrigeration units.**

rodents and insects cannot get in; that storerooms are clean and food stored off the floors and in proper containers; refrigerators are checked for proper temperature; equipment is checked to make sure that it is clean and of proper construction.

The employee and customer restrooms are checked to see if they are clean; fixtures adequate and in working condition; and soap and towels furnished. The sanitarians also check the methods of disposing of refuse, sewage and industrial waste. Water supplies and systems and hot water temperatures and controls are checked regularly.

When food is processed and shipped within the state, sanitarians inspect markets, food processing plants, slaughterhouses, and other food warehouses and food supply sources. If the food is shipped in from out-of-state, the sanitarians know that the food is inspected at its source by a local or state health department or one of the federal agencies.

Where necessary, samples of food and swabs of utensils and equipment are taken by the sanitarians and sent to the public health laboratories. These samples are tested for bacteria and other

microorganisms. Laboratory results reveal product quality or the effectiveness of housekeeping methods in a particular establishment.

Where needed, the sanitarian draws the attention of the food outlet's manager or owner to the violation of the law, the Florida Sanitary Code, or a lapse in good sanitary practice. In most cases, the manager or owner is cooperative and the condition is corrected immediately. In some instances, the County Health Department or State Board of Health has to order a store, processing plant or restaurant closed until the violation is rectified.

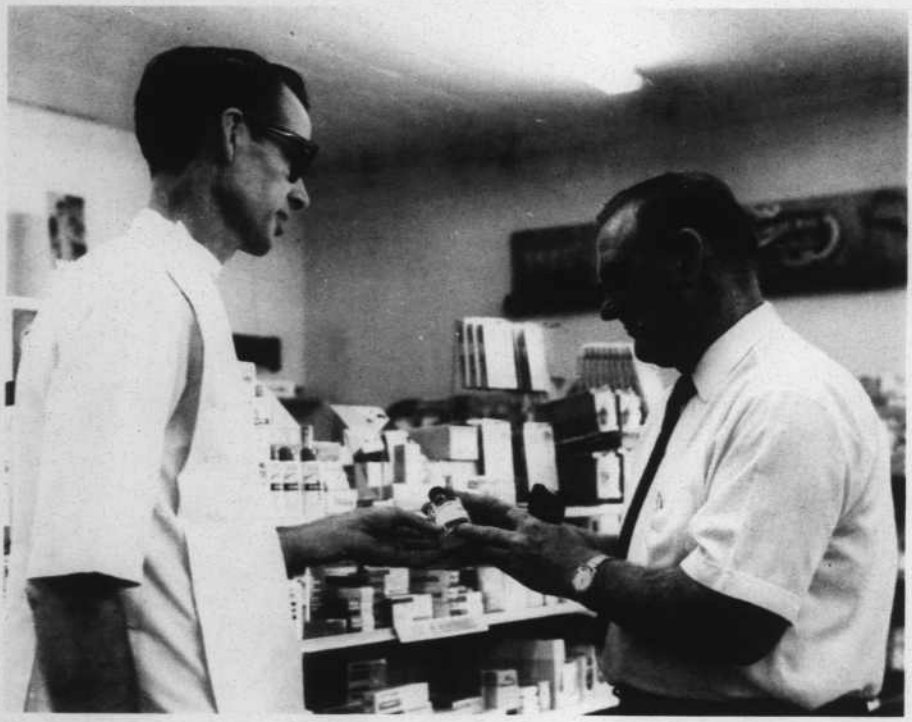
The State Board of Health and County Health Departments carry out inspections of all food places to protect Mrs. Stewart and her family and friends from disease and food-borne illnesses. The State Board of Health also receives reports on the recall of foods from the U. S. Public Health Service and the Food and Drug Administration. These reports are checked and, where action is indicated, the State Board of Health forwards them to the County Health Departments which check food warehouses, food process plants, food stores and food service establishments to insure that the unsafe food does not reach the consumer.

Safe Cosmetics and Drugs

When Mrs. Stewart goes to the drugstore to purchase her daughter's cosmetics and her husband's prescription, the State Board of Health is the Florida agency which sees that the drugs are safe and those cosmetics manufactured in the state are what they are claimed to be. When these products are shipped through interstate commerce, the Federal Food and Drug Administration has jurisdiction.

The State Board of Health receives daily reports from the regional office of the Food and Drug Administration on the recall of drugs. These reports are followed closely and sent on to district inspectors who make spot checks of hospital and large drug dispersing centers to make sure that the drugs are removed from the shelves.

State drug inspectors visit pharmacies regularly and sometimes ask druggists to remove outdated drugs or antibiotics from the



A pharmacist and drug inspector discuss the qualities of a patent medicine taken from the shelves of a drugstore.

shelves. Because of the deterioration of many drugs, antibiotics and vitamins, the manufacturers date these preparations so that they will not be sold to the public when they are no longer effective. Some drug manufacturers have detail men who alert or contact persons selling drugs to make sure that these are removed from drugstores and hospital pharmacies.

The State Board of Health watches also for false claims and mislabeling of drugs and cosmetics. Any accompanying literature is considered part of the label. The agency also is interested in any drugs or cosmetics which are adulterated or misbranded. Both the state and federal laws require the registration and periodic inspection of all drugs and cosmetics. An application for each new drug must be approved by the Federal Food and Drug Administration before it is marketed.

A good example of the surveillance in the United States was the case of thalidomide. This drug was under "investigative use" in the United States in 1961. At the same time it was being widely used

as a tranquilizer by pregnant women in Europe. When the drug was known to have caused hundreds of deformed children it was pulled from the market. The United States was spared the "thalidomide curse" although it caused a few deformed children of women who had used the drug while in Europe.

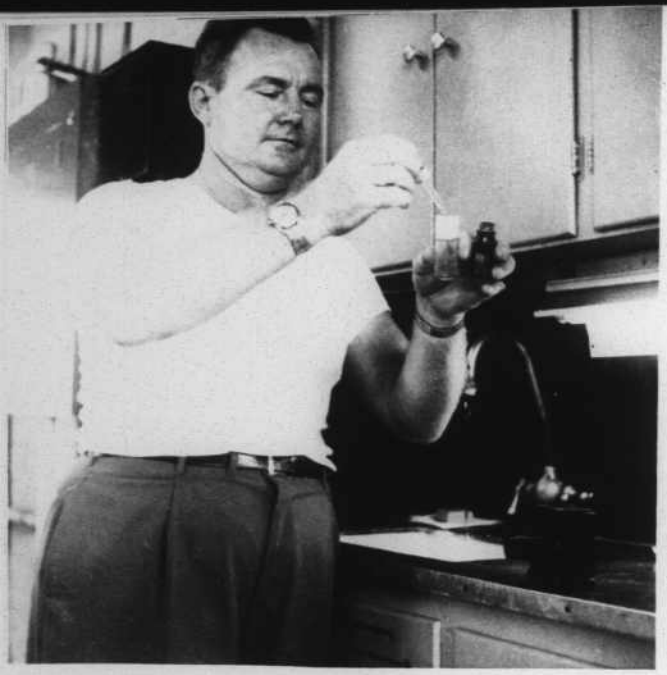
Where the chemical make-up or manufacturing process of a drug or cosmetic is under question, the inspector checks to make sure the facilities and equipment are sanitary, the drug is being properly prepared, and the product is safe for the consumer. If there is any question about the drug or cosmetics, the product is ordered off the market until the situation is corrected, or, if necessary, the manufacturing of the drug is discontinued.

Protecting the Water Supply

When Mrs. Stewart draws water from the faucet in her home, she is getting water that is safe to drink. This is due to the State Board of Health's program of reviewing engineering designs for water plants and the surveillance of the operation which gives the best water quality to Florida's cities, water districts, private utilities and industrial installations.

The plans for water plants are checked to make sure that the engineering designs come up to standards set by the industry and the State Board of Health. The operators of the water plants attend short courses to improve their techniques and procedures and thus improve the services to their communities. They are certified under a voluntary certification program developed and agreed upon by the State Board of Health and the Water and Pollution Control Operators Association.

These operators make routine daily tests and submit monthly reports to the State Board of Health. They have facilities for testing water from the plant and water systems. These tests also include routine bacteriological reports—the majority of which are performed in health department laboratories. In case of a suspicious bacterial report, the State Board of Health and County Health Department take immediate steps to make corrections. In some cases the chlorination may be stepped up to kill the bacteria, or the director of the County Health Department may issue other corrective orders.



A water plant operator tests a sample of water for purity. He submits monthly reports to the County Health Department and State Board of Health.

Not only is the State Board of Health concerned with the safety of drinking water, it also recommends the addition of fluoride—an extra bonus which benefits growing children. Fluoridation is found to be an effective method of reducing dental caries among children at a relatively low cost. It is possible for every community to do so where water works personnel are qualified for the purpose to assure a successful operation. Some Florida cities already have natural fluorides in the correct amount in their drinking water.

County Health Department sanitarians, in some counties, advise private homeowners where to locate their wells, pick up water samples for analyzing, and then make suggestions as to how to chlorinate the water supply if necessary.

The sanitarians also regularly inspect bottled water plants which are permitted by the State Board of Health. They take water samples, check on the sanitizing and labeling of bottles, and make sure the water supply is protected. There were 27 Florida plants and three out-of-state shippers permitted in 1967.

Although Mrs. Stewart does not have daily access to a public swimming pool, she and her family frequently enjoy the pools of motels and parks when they are on vacation or touring the state.

When a public swimming pool is to be constructed, the State Board of Health reviews and approves the proposed engineering plans—the filter, pump, chemical feeder, installation of pipes, and the recirculation ratio. When the pool meets the standards set by the State Board of Health, or those County Health Departments which have sanitary engineers, the approval for construction is given.

After the public swimming pool is built and permitted for operation, the sanitarian from the County Health Department protects the public's health by routinely checking on the operation, cleanliness and chemical level of the pool. Over 5000 public swimming pools are in operation in Florida; roughly half of these are in Broward and Dade Counties.

The State Board of Health also checks the bacterial level of permitted public bathing places on lakes and rivers. There were some 63 of these permitted in 1967.

When the Pest Control Operator Calls

When the pest control operator called to give Mrs. Stewart an estimate on the cost of treating her home for termites, she asked for his identification card which showed his name, photograph, the name of his company and the expiration date of his card. Since it was a reputable firm, his truck also carried the company's name and the name of the city in which it was located.

Mrs. Stewart and her husband had contacted at least three pest control firms for estimates and in this way they were certain of getting the best service for their money. The State Board of Health cannot recommend one company over another but if Mrs. Stewart has a complaint about the company servicing her home, she should make a complaint in writing to the regional entomologist nearest her home. These are located in Miami, Winter Haven, Tampa, Panama City and Jacksonville. Or she may write to the State Board of Health headquarters. The most common complaints have to do with failure of a company to control the wood-infesting pests, failure

to comply with a contract, or failure to reinspect the premises. The State Board of Health investigates all complaints and, if possible, obtains relief for the homeowner.

Florida is troubled from time to time with illegal pest control operators who travel from town to town soliciting work. They are not licensed by the State Board of Health. Frequently they pass themselves off as representatives of state agencies. These people prey upon old people, widows, retirees and disabled persons. They pressure the homeowner into letting them make a termite inspection and usually "claim" that termites are present. Often stating that the situation is bad, these illegal pest control operators falsely claim that the state requires the termites to be cleaned out. They usually persuade the homeowner to let them do the job "right on the spot." In some incidents in Florida, elderly people have been swindled of thousands of dollars.



County Health Department sanitarians test the chlorine level of a motel's swimming pool.

Protection from Radiation

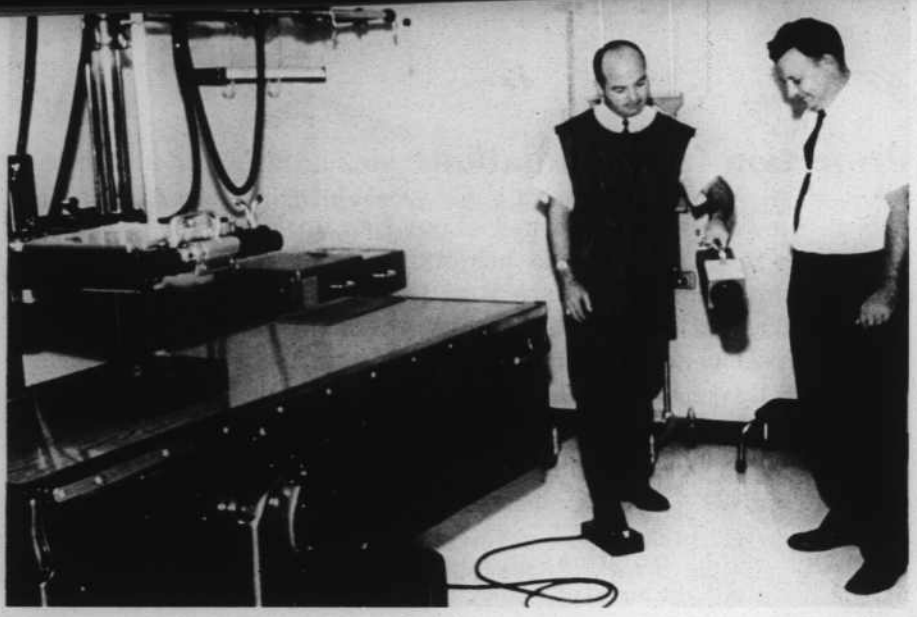
Mrs. Stewart was concerned about her uncle who was to have diagnostic tests in a Florida hospital. Part of these tests included x-ray examination. The State Board of Health recognizes the usefulness of radiation in medicine but where this method of diagnosing is a great benefactor, it also can be harmful in certain respects. The State Board of Health encourages practitioners of the healing arts and x-ray technicians to limit the radiation given a patient when possible. This is an attempt to eliminate non-productive radiation to the body's cells.

Small doses of radiation can be dangerous and radiation to parts of the body not under study may be harmful. The vast majority of x-ray examinations need not expose the reproductive organs of either the male or female. For example, it is not necessary to expose these organs to radiation while taking an x-ray picture of the chest. The spread of the x-ray beams can be cut down by collimators, or cones, which confine the beams only to the area of diagnostic interest.

In diagnostic X-ray some beams are strong enough only to penetrate the surface of the body. These soft or weak rays, which are absorbed by the body, can be eliminated by filters. Medium or hard rays can go through the various layers of tissues and stop at hard material, such as bone. In a manner similar to taking a photograph, various thicknesses of organs are outlined by strong x-ray beams.

The patient can also be protected by developing techniques. The State Board of Health recommends that with all things being equal, a fast film and short exposure time are the best for making x-ray pictures. Such fast films can be used in cases of bone fractures which do not require a fine-grained film. With a diseased organ, however, a fine-grained film may be required.

The main source of man-made radiation to the people of Florida is from diagnostic radiation. However, radioactive materials and X rays are used in therapy in ways that concentrate the destructive effects in the diseased tissues. Most people who receive therapeutic radiation are elderly and do not live long enough to develop late



A Geiger counter is used to measure the amount of scattered radiation following a diagnostic test.

radiation problems. They are also not in the reproductive period of life and there is no damage to future generations.

Mrs. Stewart and her family are also kept informed of the amount of radiation in the environment through surveillance carried on by the State Board of Health and County Health Departments. One method is by testing of milk samples collected from throughout the state. Since milk is a universal food and is consumed, more or less, in its natural state, it is most indicative of the population's intake of radionuclides. Other methods of sampling radioactivity in the environment is air survellance, with dust from the air collected on filters, and precipitation, whereby radioactivity is collected from rain which has washed the atmosphere.

Mrs. Stewarts' family is kept informed of the fallout rate and they are becoming accustomed to the language used by radiologists. Should a high fallout count occur, they would know how to accept the information.

A Safer Environment for the Consumer

When Mrs. Stewart's aunt was taken to the hospital in an ambulance, the vehicle was properly equipped for the emergency trans-

portation of the injured and the driver and attendant had completed a first-aid training course.

The State Board of Health is legally responsible for seeing that the vehicle was equipped with items for dressing wounds, splinting fractures, administering oxygen, and controlling hemorrhages to the extent taught in a first-aid course. The attendants had completed a first aid course approved by the State Board of Health and taught by American Red Cross instructors. In those areas where such instructors were not available, the County Health Department gave a 20-hour ambulance attendant training course which was developed by the State Board of Health.

Mrs. Stewart's new automobile has a number of safety features which resulted from studies involving the State Board of Health, the Florida Highway Patrol, the Florida Medical Association, the Florida Hospital Association and the Cornell Aeronautical Laboratories of Buffalo, New York. The State Board of Health coordinated medical reports from physicians who attended persons injured in accidents, and reports from policemen who investigate the accidents. Because of the Florida studies and similar projects, the automobile industry has installed seat belts, shoulder harnesses, padded instrument panels and sun visors, recessed steering wheel hubs, and improved door-holding mechanisms on many late model cars.

The sliding glass doors in Mrs. Stewart's home are made of tempered glass developed by the glass industry following a nation-wide study of accidents involving glass doors. The State Board of Health and several County Health Departments, including Dade, Orange Palm Beach and Volusia Counties, participated in the national survey.

Education and Information for the Consumer

When Mrs. Stewart decorates her Christmas tree, she remembers from television spot announcements, news stories and literature developed by the State Board of Health not to overload the electrical circuits or use multiple outlets in her home. She knows that electricity causes one out of five fires in Florida. Therefore worn or broken lamps and extension cords are replaced. She does not run electrical wires under rugs, over hooks or nails or any exposed place where they are subject to wear.

Mrs. Stewart is always alert to the dangers of poisonings in her home and she keeps medicines and cleaning fluids in locked cabinets. There were over 85 Florida deaths from poisonings in the home in 1967. Of these, the most common cause was from internal medicines taken by children. The State Board of Health has adopted a safety medicine bottle as a safe method of dispensing medicines. These vials cannot be opened by the children.

The State Board of Health and County Health Departments are always alert to dangers to the people of Florida. In one county, the director of the County Health Department discovered that poisonous Jequirity beans were being sold in novelty and gift shops as "love beads" and urged the removal of such items from the market.

Warnings were also issued by the State Board of Health and County Health Departments that certain makes of color television sets were emitting X rays in excess of standards recommended by the National Council on Radiation Protection and Measurements. Recent manufactured and modified television sets have corrected the leakage of X rays and Mrs. Stewart's new color set is safe to have in her home.

A continual education and information program is carried on through and in cooperation with many of the bureaus and divisions of the State Board of Health and County Health Departments to protect, warn or inform the consumers of Florida.

This information program has relayed to newspapers, radio and television stations numerous stories about such items as unlicensed pest control operators, the dangers of flying kites near power lines, the need to keep children seated in moving automobiles, and the importance of immunizations.

Mrs. Stewart, you recall, was going to have a busy day. Many of the things she already knows about health and disease, accident prevention and safety, nutrition and life in general, have come from the hundreds of films and pamphlets distributed or loaned by the State Board of Health. These films and pamphlets cover a wide range of subjects. Perhaps now she realizes what part the state and county health agencies play in protecting her from harm and making her day easier. We hope she does.

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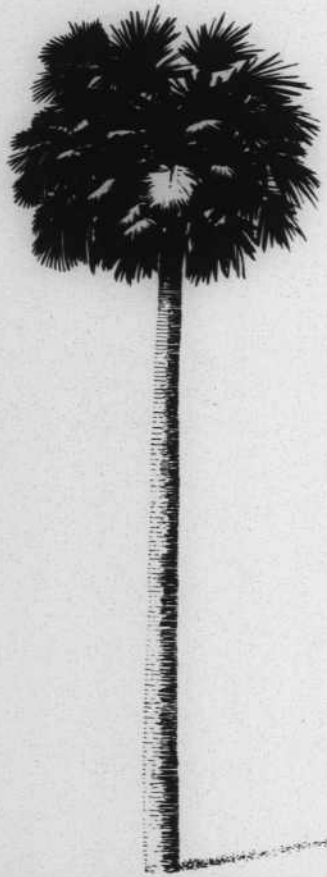
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